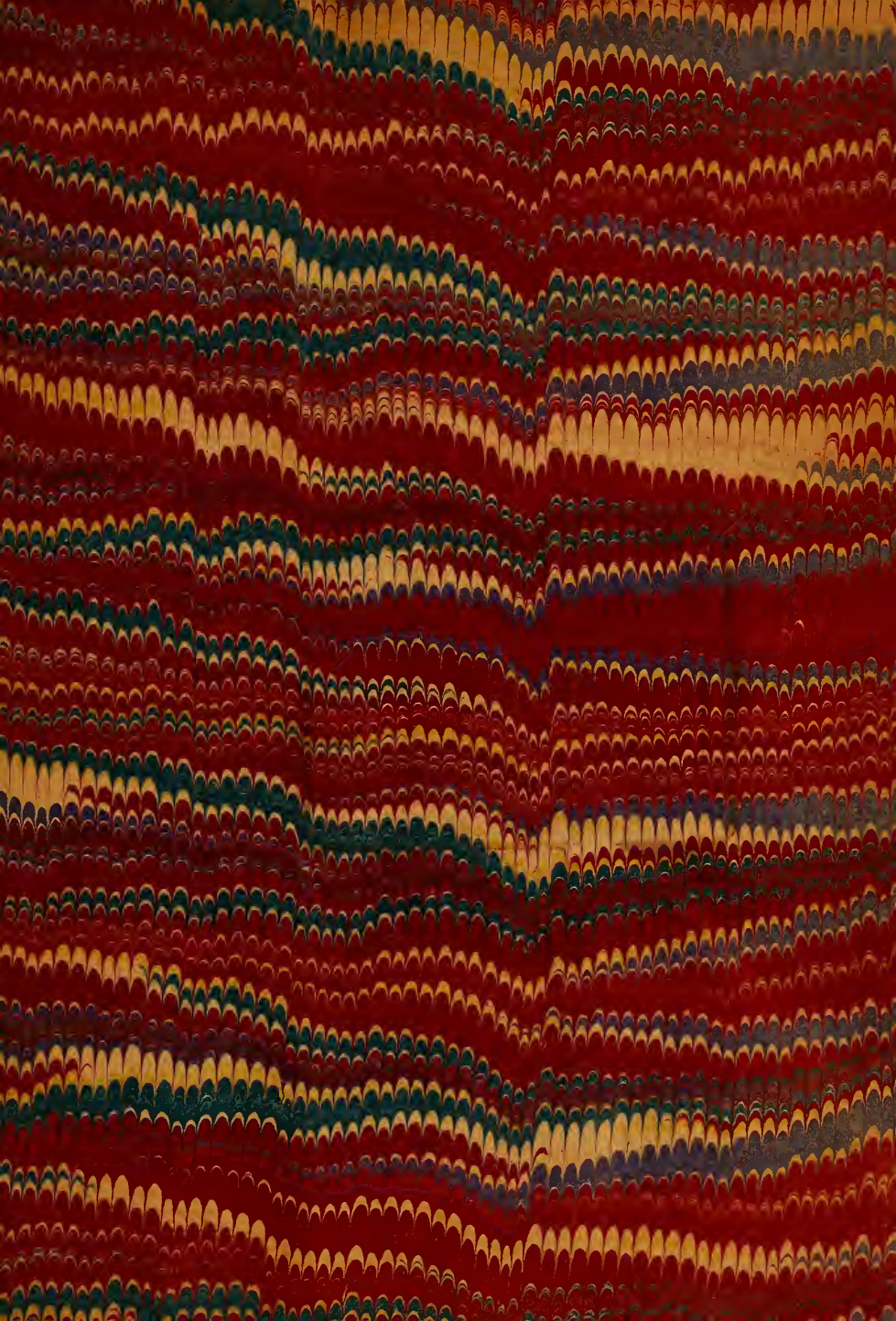

OUTLINES

OF

PSYCHOLOGY.

BY

HENRY G. WILLIAMS.

A BOOK

FOR

TEACHERS AND STUDENTS.

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—OF—

PSYCHOLOGY.

—o—

A PRACTICAL BOOK

FOR TEACHERS AND STUDENTS

—BY—

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HILLSBORO, OHIO
PUBLISHED BY THE AUTHOR.
1894.

From the Press
THE LYLE PRINTING CO.
Hillsboro, Ohio

INTRODUCTION.

This little book does not pretend to be a treatise upon psychology, but an outline of principles logically arranged so that the student of psychology and of the theory of teaching may use it as a guide-book in directing his investigations upon this subject. Definitions and principles are not here extensively elucidated, but the facts of the science are plainly stated in their relation to each other, with ample suggestions to the student who desires to make further investigations. It has been the aim of the author to incorporate the cardinal principles that underlie all empirical psychology, and to show the inseparable relationship existing between these principles and the successful practice of the teacher. As "science is knowledge properly classified," it has been the aim of the author to show the co-ordination and subordination of every topic, suggesting also the order in which each should be studied. That there is a philosophy of education is now generally admitted, though not universally. The application of universal principles to teaching is based upon such a philoso phy. To aid the young teacher to discover and realize that psychology is not an isolated science, the author has appended other outlines and suggestive articles showing the application of psychological principles. That this little book may prove a real help to some and a source of inquiry, at least, to others, is the hope of

THE AUTHOR.

OUTLINE OF PSYCHOLOGY.

A BRIEF SYNOPSIS

If the student be not entirely familiar with this system of outlining he will do well to study carefully the following brief synopsis of the more extended outline that follows. It will be noticed that the larger figures represent co-ordination when placed one above the other in a vertical column, and subordination when placed one column to the right. The exponents placed to the right and at the top of the numerals indicate the order and extent of the subdivisions made. A half hour of careful study will enable any student to comprehend readily the entire scheme, and to observe the manifest superiority of the exponential numeral system above all others.

1^1 Psychology.

1^2 Definition.—Psychology is the science of the phenomena of the soul.

2^2 Methods of study.

1^3 Introspective, or subjective, method.—The study of one's own mental activities

2^3 Inferential, or objective, method.—The study of the words and acts of others, by observation, biography, history, literature.

3^3 Physiological.—The study of the relations between physical conditions and mental phenomena.

3^2 Relation of body to mind.

1^3 The nervous system.

2^3 Philosophies arising from this relation.

4[2] The Powers of the Soul.
1[3] Its general powers.
2[3] Its individual powers.
1[4] The Intellect.
1[5] Definition.–The soul possessing the power to know.
2[5] Products of knowing.
3[5] Objects of knowledge.
4[5] Kinds of knowledge.
5[5] Powers.
1[6] Presentative
1[7] Def.–That intellectual power by which the soul attends to what is within or about it when objects of knowledge are presented.
2[7] Its forms.
1[8] Self-Consciousness.
2[8] Sense-Perception (Authors differ.)
1[9] Definition and etymology.
2[9] Conditions of sense-perception.
3[8] Intuition
2 Representative.
1[7] Def.–The power to represent and reknow objects previously known.
2[7] Classes.
1[8] Association, and the Laws of Association.
2[8] Phantasy, or simple representation.
3[8] Memory, or real representation.
4[8] Imagination, or ideal representation.
3[6] Thought powers.
1[7] Definition.
2[7] Classes.

1[8] Conception.—The power to form general notions representing classes of objects.
2[8] Judgment.--The power to discern common likeness of objects by comparison.
3[8] Reason.--The power by which judgments are inferred.

2[4] The Sensibility.
1[5] Def.--The soul exercising the power to feel.
2[5] Classification.
1[6] Corporeal, or physical feelings.
1[7] Sensations.
1[8] General sensations.--Organic and vital.
2[8] Special sensations.--Sight, hearing, etc.
2[7] Appetites.
1[8] Natural--Those arising from some want in the organism.
2[8] Acquired.--Physical cravings produced by habit.
2[6] Psychical feelings
1[7] Emotions.--Instinctive, mixed and rational.
2[7] Affections.--Benevolent, malevolent and defensive.
3[7] Desires and Aversions.

3[4] The Will.
1[5] Def.--The soul exercising the power to do.
2[5] Its nature.
3[5] Its powers.
1[6] Passive will power, as influenced by motives.
2[6] Elective will power, exercising choice and decision.
3[6] Executive will power, or volition proper.

OUTLINE.

1[1] Def.--Psychology is the science of the phenomena of the soul. Gordy says it is the science of mental facts. Steele says, "Psychology is the science of the human soul," and so say a large majority of authorities, but a close study of the facts will convince one that the science is based upon a study of the phenomena or activities of the soul.

2[1] Etymology.–From the Greek *psyche*, meaning soul, and *logos*, meaning discouse.

3[1] Province.–The mind and its activities.

4 Reasons why it should be studied.

1[2] By all who desire a good education.

1[3] It develops the intellect.

2[3] It teaches the importance of a study of human nature in order to win success in any avocation or profession.

3[3] It enables one to know how best to develop his own mind.

4[3] It is of great value to all who would influence their fellow-men to moral excellence and the best use of their faculties.

2[2] By teachers and prospective teachers.

1[3] It aids the teacher in striving for that which is best within himself.

2[3] It enables him to teach scientifically.

3[3] With the mind the teacher deals, concerning mind he should know.

4[3] "On earth there is nothing great but man, and in man there is nothing great but mind."

5^3 It enables the teacher to direct with a purpose and to a definite end the early development of the child mind.

5^1 The soul.

1^2 Def.–The soul is that part of man's being which feels, knows, and wills.

2^2 Synonyms.–Mind, ego, self, spirit, etc. The term *mind*, is used as almost identical with the term *soul*, yet there should be a difference in their application. *Ego* means the self as distinguished from all material creation—the individual soul; I, myself. The ego is the subjective as distinguished from the objective. Other synonyms are conscious subject, human consciousness, and spirit.

3^2 Distinction between soul and spirit.–Hewett makes this distinction: The word *soul*, includes in its meaning, such of the lower psychical powers as the nobler brutes possess in some degree in common with man. The spiritual part of man's psychical nature includes personality, morality, and responsibility, while the soul-attributes possessed by the higher orders of the lower animals do not included reason, conscience, and a free will, hence no personality, morality, and responsibility.

4^2 The powers or faculties exercised by the soul.–Sensibility, intellect, and will.

1^3 This classification was first made by Sir William Hamilton, about 1840.

2^3 Divisions.

1^4 Sensibility–The power of the soul to feel, includes physical as well as psychical feelings, because the former can only be recog-

nized by the conscious subject, the soul.

2^4 Intellect.—The power of the soul to know.

3^4 Will.—The power of the soul to do or execute.

6^1 Psychology proper.

1^2 Classification.

1^3 Empirical psychology.—That which restricts itself to observation and experience, and does not speculate upon the nature of the principles involved. All psychology proper is empirical, and to this branch of the subject teachers should devote particular attention.

2^3 Rational psychology.—That which deals with the nature of the soul and deduces philosophies from the underlying principles discovered in the study of phenomena. Empirical psychology gives but greater prominence to the phenomena of the soul with the conditions and laws of the same, while rational psychology gives prominence to the faculties implied by these phenomena. The terms cognition, feeling, and volition apply directly to the first, while the terms intellect, sensibility, and will are more properly used in the classification of the second.

2^2 Methods of study.

1^3 The study of self, or by means of consciousness.

1^4 The method.

1^5 We know that we think, feel, and will.

2^5 We know that we see, hear, smell, taste, and touch.

3^5 We know that we perceive, imagine, remember, judge, and reason.

2^4 Consciousness.--The mind knowing itself and its own activities and states.

3^4 Causes. -We can study the causes that excite certain feelings in the mind. Psychical feelings are here referred to.

4^4 Circumstances.--We can observe under what circumstances we feel pain and pleasure, joy and sorrow, indignation and pity, etc.

5^4 Difficulties encountered by this method.--This method of introspection, as it is called, is at first quite difficult, but becomes easier by practice. A mental act of any kind is a fleeting phenomenon, and while we attempt to concentrate our thoughts upon any mental act it becomes a past act. However, memory comes to our assistance and calls up our past mental phenomena, thus in part obviating the difficulty

6^4 Extent of this method.--We can thus study only isolated mental facts, hence the method gives us knowledge only of individual facts. To obtain a law of mental activity we must connect these individual facts: laws are the results of inference. It can thus be seen that we use also, to a slight extent, the inferential method in the study of our own minds.

2^3 The study by observation.

1^4 Application.--While the first method may be called the introspective, or subjective, the study of the mind by observation may be called the inferential, or objective, method.

2^4 Advantage. -We have, in the school room and out of it, all the steps in the child's pro-

gress in development, together with the real and apparent influences and environments.

3[4] Difficulty.--One can not study a single mind long enough or under a sufficient variety of circumstances to arrive at definite conclusions. The same child is not under the direct observation of a teacher long enough for him to make a series of observations that shall discover for him a law of mental growth. The present insecure tenure of teachers only aggravates this difficulty.

4[4] Relation to introspective methods.--In the study and collection of individual facts, you can use the introspective method without the inferential, but the latter can not be used at all without the former. When we make an inference it is because we know by introspection that we have certain mental activities when certain circumstances exist.

5[4] How the method is used.

1[5] Through a study of the words and acts of others.

2[5] By observation we may trace the growth of a child's mind.

3[5] We may learn the traits, motives, and beliefs of men from a study of the auxiliary branches:

1[6] Biology, the science of life.

2[6] Sociology, the science of society.

3[6] Biography, the history or narrative of an individual life.

4[6] Anthropology, the science which treats

of man in his relation to the animal kingdom.

5^6 Physiology, the science which treats of the functions of man's individual organism.

6^6 History, when studied in the light of cause and effect.

7^6 Literature, when studied in the light of the history of the language and the growth of thought.

3^3 The study of psychology from books.

1^4 It is a necessary method, but should not be be used exclusively.

2^4 Difficulty.--The different nomenclatures used by different authors tend to confound the learner.

3^4 Importance.--Teachers must study psychology from books if they expect to learn the science. Only in this way can they profit by the experience and wisdom of those who have given much time to the study. It is necessary to study books on this subject in order to know the generalizations that have been made as the results of centuries of observation, and to learn the scientific terms that have been thus evolved.

3^2 Psychology as a science.--Inductive, because its laws are founded upon and formulated from the observation of related mental activities.

4^2 Relation of the soul to the body; of the psychical to the physical.

1^3 Reason for his relation.--As there can be no mental activity, without a living organism supplied with a nervous system, the study of

Psychology is necessarily closely connected with that of physiology.

2^3 What the relation is--Neither internal or external observation will reveal the exact relation between soul and body. Reflection, consciousness, and intuition are alike unable to solve the problem. The doctrine of their connection is simply theoretical and as such does not belong to psychology. It will be of interest to the student, however, to sketch an outline of the

3^3 Theories or philosophies arising from the relation of the soul and body.--Monism and Dualism.

1^4 Monism.

1^5 Def.--The assumption that the soul and body are each material, and of one substance.

2^5 Etymology--From the Greek word *monos*, meaning one.

3^5 Forms of monism. -Materialism, Idealism, and Agnosticism.

1^6 Materialism.

1^7 Def.--The doctrine that denies the existence of material substances and regards the soul as a function of matter in motion.

2^7 Example of materialists.--Alexander Bain, a Scotch philosopher, 1818-1877, who called the body a double-faced unity with mind on one side and matter on the other.

2^6 Idealism

1[7] Def.--The doctrine that admits no other reality than ideas, regarding all known objects as the products of psychical action, and the soul as immaterial.

2[7] Idealists--George Berkeley, Irish metaphysician, 1684-1753, was probably the founder of idealism. John Stuart Mill, English political economist, 1806-1873, was an idealist. He defined mind as a series of feelings and matter as "a permanent possibility of sensations."

3[6] Agnosticism.

1[7] Def.--The doctrine that the existence of a personal deity can neither be asserted nor denied, neither proved nor disproved, owing to the necessary limits to the human mind.

2[7] Agnostic.--Herbert Spencer, Eng. philosopher born 1820, who refers the phenomena of both mind and matter to a substance which is both unknown and unknowable. He rejects all evidence that is not positive and conclusive.

2[4] Dualism (1[4] Monism.)

1[5] Def.- The doctrine that man is constituted of two original and independent elements, matter and spirit.

2[5] Etymology.--From the Latin *duo*, meaning two.

3[5] Forms.--Mysticism and Dualistic Realism

1' Mysticism.--The doctrine of pre-established harmony in all things and the direct communication of the soul with the divine spirit. The French philosopher, Nicholas Malebranche, 1638-1715, and the German philosopher, G.

W. Liebnitz, 1646-1716, were dualists. It seems that dualists themselves, although believing the doctrine in the main as stated above, could never agree as to the extent of the soul's vision in comprehending the divine spirit.

2^6 Dualistic Realism.

1^7 Def.--The belief in the clear apprehension of the soul by self-consciousness and a knowledge of the body through sense-perception.

2^7 Its validity.--This theory or philosophy adheres to the facts and rejects arbitrary hypotheses. It does not pretend to unravel all the mysteries of soul, determine its locus, or disbelieve all things because it can not see all things. It is ready to confess ignorance when there are no means for further knowledge.

3^7 Believers in dualistic realism.--Since the time of Thomas Ried, a Scotch philosopher, 1710-1796, this doctrine has been the leading one held by the great body of advanced thinkers of Europe and America. James McCosh, an American philosopher of Scotch birth, 1811—, is probably the greatest leader in this philosophy, of the nineteenth century. It would be well, for those who have the inclination, to secure the works of the authors mentioned in this outline of the various philosophies of the soul, and study their bearing upon the development of thought in this advanced age.

4^3 The nervous system as the intermediate factor in all sensations. (See 3^3 and 4^2 to observe the connection of this topic.)

1[4] The processes in every complete sensation.

1[5] The external excitant, or physical excitant, as it is sometimes called. It is that which when presented to the nervous system under proper conditions will produce a physical sensation. To illustrate: A bright light placed before the eyes will produce a certain change in the optic nerve, which is a physical sensation. The light is the external excitant.

2[5] The sensorium, or that part of the nervous system engaged in conveying sensation.

3[5] The mental or psychical excitement, sometimes called the sensorial excitement. It is probably better to say that the sensorial excitement is in the sensory nerves and that part of the brain used in receiving sensations while the psychical excitement is the sensation proper and is in the soul. This distinction shows that there are physical or corporeal sensations, and psychical sensations. By those who use unscientific speech the former is meant when sensation is referred to.

2[4] Analysis of the nervous system.

1[5] Cerebro-spinal system.

1[6] Def.–That part of the nervous system comprised in the brain, spinal cord, their nerves, and the ganglia belonging to them.

2[6] Parts.

1[7] The Brain, or encephalon.

1[8] Weight.–In the male adult, 49 to 50 oz.; in the female adult, 44 to 45 oz.

2[8] Parts.

1[9] Cerebrum.–The portion of the brain occupying the top and front part of the

cranium. Gray matter to the depth of about 1-8 of an inch covers the outer part, constituting the cortex of the cerebrum. Beneath it is the white matter consisting of nerve-fibers. It is estimated that the number of nerve-cells in the cerebrum alone is 900,000,000, while the number of fibers is probably about 4,500,000,000. The cerebrum is the seat of intelligence, and has control of all the voluntary movements of the body. (See outline below.)

2[9] Cerebellum.–Called the "little brain," it is situated in the posterior part of the cranium beneath the cerebrum or brain proper, and is composed of gray and white matter in about the same proportions and relations as in the cerebrum, but is only about 1-8 as large. Its function is not definitely known, but it is generally believed that the cerebellum has a co-ordinating power with the cerebrum in controlling voluntary muscular movements. As the cerebrum is the seat of thought it can not be doubted that all voluntary muscular movements must be under the control of the cerebrum, so far as the will is concerned, but it is believed that the will of the cerebrum is carried out by the cerebellum. But the fact that the cerebrum may sometimes carry out these acts alone in case of an injury to the cerebellum, leads scientific men to conclude that the exact function of the latter is not yet definitely known.

3[9] Medulla Oblongata–This is really an enlarged portion of the spinal cord, situated just above the foramen magnum at the base of the skull. It is

about one inch and a quarter long by three-quarters of an inch wide, and weighs about one ounce. Its weight is a little greater in females than in males. Its functions are to control wholly or in part the actions of the heart, lungs, and blood-vessels, and all vital actions. Although respiration is to some extent under the control of the will, yet under ordinary circumstances we breathe by reflex action.

3^{8} Intellectual power and size of brain.

1^{9} The rule.–Great intellectual power is usually associated with a large brain, especially a large cerebrum. Examples are Abercromba, Cuvier, Webster, Disraeli, and others.

2^{9} The exceptions.

1^{10} The weight of the brain is relatively greater at birth and in childhood than in youth or manhood and womanhood.

2^{10} A few cases of imbecility have been noticed where the brain was very heavy, usually abnormally heavy.

2^{7} Nerves of the brain-system. (1^{7} The brain.)

1^{8} Sensory.–Those that carry sensations to the brain. They are also called afferent nerves, because of the direction in which they carry sensation. The term sensation is here used in its physical sense, as used in physiology.

2^{8} Motor.–Those that carry sensation from the brain. They are also called efferent nerves. Sensory nerves are sometimes called centripetal nerves, because center-seeking, and motor nerves for the similar reason are called centrifugal nerves. As their names indicate, the former are

nerves of sensation proper, while the latter are nerves of motion

3^7 The spinal cord. (1^7 Brain, 2^7 Nerves.)

1^8 Of what it consists.—A gray axis surrounded by white matter and investing membranes, occupying the spinal canal. Its length is about eighteen inches; weight, one and a half ounces.

2^8 Its functions.--It acts as a conductor to and from the brain, and by reflex action controls the involuntary movements of the limbs and exerts a certain control over the organs of digestion, respiration, and circulation.

2^5 Sympathetic system.--(1^5 Cerebro-spinal system.)

1^6 Of what it consists.--A double chain of ganglia situated on either side of the spinal cord and connected with the nerves of the spinal cord and the nerves of the brain by means of transverse connecting nerves. These ganglia are also connected with the organs of the chest and abdomen.

2^6 Function.--To regulate the processes of organic life.

3^5 The Special Senses in their relation to psychology.

1^6 Sense of Smell.

1^7 The nerve of smell.--Olfactory, which arises from the anterior portion of the base of the cerebrum and is spread out upon the surface of the turbinated bones. It is peculiar in that it is the only nerve in the body known to contain gray matter in its axis

2^7 The excitant.--The floating particles of odorous matter coming in contact with the delicate Schneiderian membrane which invests the nostrils.

3^7 The result.--The nerve is irritated and the sensorial excitement is the sensation of smell.

2^6 Sense of Taste.

1^7 The nerves of taste.

1^8 The inferior branch of the trifacial nerve, also called the gustatory nerve, which supplies the front half of the tongue.

2^8 The glosso-pharyngeal, so-called because distributed to both tongue and throat.

2^7 The excitant.–Matter in a state of solution passing over the tongue.

3^7 The result or sensorial excitement.–The sensations of flavors and tastes.

4^7 Peculiarities.

1^8 Modifications of the sense of taste.–Sweetness and sourness, detected in particular by the gustatory nerve; and saltness and bitterness, detected by the glosso-pharyngeal. Potassium chlorde, sodium sulphate, and other substances are exceptions.

2^8 Sensations of touch detected by the tongue.–Roughness, smoothness, oiliness, pungency, starchiness, etc.

3^8 Sensations of smell apparently detected by the tongue.--In the case of articles having an aroma the smell seems closely allied with the taste, but by closing the nostrils while tasting such substances the deception will be observed.

3^6 Sense of Hearing.

1^7 The nerve.--The auditory nerve, which arises from the medulla oblongata and supplies the internal ear.

2^7 The excitant.--The vibrations of the media in which the sensorial end-plates of the auditory

nerves are situated, caused by the vibrations of the external air, which have been induced by the sudden change in position of some material object.

3^{7} The result.--The sensorial excitement in this case results in a knowledge of the many varieties of sound.

4^{6} Sense of Sight.

1^{7} The nerve.--The optic nerve, which has its origin in the anterior portions of the cerebrum and whose sensorial endplates terminate in the retina. The olfactory and the optic are the only cranial nerves arising directly from the cerebrum.

2^{7} The excitant.--The waves of light. For a clear discussion of the cause of light and how it is communicated, the student is referred to any good work on physics.

3^{7} The result.

1^{8} Primarily considered, it gives us a knowledge of color and form.

2^{8} When assisted by touch, hearing, and experience it gives us notions of size, distance, roughness, smoothness, and many other qualities of objects. This is probably the most remarkable and wonderful of the senses when considered from a psychological standpoint.

5^{6} The Sense of Touch.

1^{7} Nerves of touch.--They have no special names, although sometimes called tactile nerves. They belong to the spinal cord, hence, to the cerebro-spinal system. They end in peculiar sensorial end-plates in the cutis and other investing membranes.

2^7 The excitant.--Properly, touch involves pressure or actual contact of objects with portions of the body supplied with these nerves, the fingers being most sensitive to touch. The tip of the tongue, however, possesses this power to a very high degree.

3^7 The result.--The information thus derived is probably the most extensive and diverse of all we gather by sense-perception.

4^5 A general observation.--It will be noticed that in this outline of the special senses three things were in each case considered: the excitant, the part of the sensorium particularly affected, and the sensorial excitement, or the sensation proper. These are the three necessary antecedents of sense-perception

5^5 Conclusion of this topic.--It will now be noticed that all the outline from 4^2, page 12, to this point has dealt with the topic, "The relation of the soul and body." We now take up the study of the powers of the soul, but shall have frequent need to think of this relation of the soul, that which really knows, feels, and wills, to the body, that of which we are so prone to think as knowing, feeling, and willing.

5^2 The powers of the soul.

1^3 Its General Powers. -Consciousness, Attention, and Conception.

1^4 Def.--Those powers of the soul distinguished from the faculties, not co-ordinate with them, but connected with them all.

2[4] General Functions.--They can not act separately from each other nor from some one or more of the intellectual faculties.

3[4] Distinction.--A *faculty* is a power under the control of the will, having some particular work of its own to do. -Hewett.

4[4] Analysis.

1[5] Consciousness. See "Self-Consciousness," below

1[6] Def.--Consciousness is the general power of the soul by which it knows its own acts and states and itself as the knower.

2[6] Authors compared.--Consciousness can not be defined.--Hill. Consciousness is the power the mind has to know its own acts and states, and to know them as belonging to the Ego.--Hewett. Consciousness is the immediate knowledge the soul has of its own phenomena. --Schuyler. Consciousness is the inner perception, the perception of our thoughts and feelings.--Putnam. Consciousness is the power of the mind by which it knows its own acts and states.--Baker.

3[6] Use of the term.--Denotes both an act and the power to which the act is referred.

4[6] Etymology. -L. *con* and *scio*, indicating that along with knowing an object, I know also the knowing.

5[6] Objects of Consciousness.--They are all psychical phenomena, actual and present.

1[7] Distinction.

1[8] Consciousness is immediate knowledge.

2[8] Knowledge of external objects is mediate.

2[7] Classes of objects of consciousness.

1[8] The Ego.--We are conscious of the Ego as thinking, feeling, and willing.--Hewett. We are not conscious of the soul, nor of the soul as knowing, feeling, and willing, but of the knowing, feeling, and willing.--Schuyler, with whom we agree on this point.

2[8] Acts or states.--We may be conscious of the activity of the mind in perceiving, remembering, etc.

3[8] All psychical phenomena.--The soul is conscious of all its phenomena. The realization of these phenomena is the state of consciousness.

4[8] The non-Ego.--Sir William Hamilton held that we may be conscious of the non-Ego, which is generally denied.

5[8] Products.--We may be conscious of our thoughts and feelings, which are the results of psychical action.

6[6] As to time of consciousness.--Consciousness can neither be before nor after a phenomenon. We are conscious of a phenomenon only at the instant of its occurrence. We are not conscious of things we remember, but of the concepts of them, which must be immediately before the mind. We may also be conscious of a present concept of that which is future.

7[6] To which special faculty of the soul most closely connected.--It is itself an act of the intellect, though implied by all psychical phenomena, cognitions, feelings, and volitions.

8[6] Kinds of Consciousness.--Schuyler

1[7] Natural consciousness.--Immediate knowledge of all three classes of psychical phenomena.

2^7 Ethical.--Reflection applied to moral states.

3^7 Abnormal. -As exhibited by persons who imagine others are noticing their awkwardness, dress, etc.

1^8 Due to morbid sensitiveness --Hewett.

2^8 To a real or supposed feeble condition of body.

3^8 To undue pride or self-love.

4^8 To a knowledge of unworthiness.

9^6 Degrees of consciousness.

1^7 Of certain organic phenomena, such as appetites, we are scarcely conscious.

2^7 The stronger the cause which induces psychical activity the stronger the degree of consciousness

10^6 General conditions of consciousness.

1^7 A living subject who is conscious.

2^7 A faculty of consciousness.

3^7 A psychical phenomenon, the only kind of objects of consciousness.

11^6 Relation of Consciousness and Attention.

1^7 By attention any of the degrees of consciousness may arise into the region of clear consciousness. –Baker.

2^7 Attention is often spontaneous. In this it is like consciousness, and may be termed "voluntary consciousness."

12^6 Relation of consciousness and cerebration

1^7 Unconscious mental activity.–Strictly speaking, there can be no unconscious mental activity, but many cases have been cited where there seems to have been mental activity without consciousness.

2^7 Unconscious cerebration.–In such cases of apparent mental activity, it is not improbable that brain activity may be unaccompanied by mental

activity. Brain activity may become reflex, like muscular habits. It is not improbable that mental activity may be started in a certain direction and become so intense that it will continue unconsciously to work in that line until the result is accomplished, when the cerebration becomes conscious again.

1^{3^6} Cultivation.–Consciousness can not be cultivated, as it is not under the control of the will.

2^5 Attention. (1^5 Consciousness.)

1^6 Etymology.–L. *ad*, meaning toward, and *tendere*, to stretch.

2^6 Def.–It is the concentration of consciousness in one direction and upon one object.

3^6 Authors compared.–The self-governing intelligence applying itself to what it wills.--Compayre. The power the mind has to bring all its forces to bear on one thing.--Hewett. The voluntary directing of the energy of the mind toward an object or an act.--Steele. The power of exercising active self-direction.--White. Attention is conscious or unconscious. —Day. Although under the control of the will, it produces no result alone, and of itself.--Hewett. It is not a special intellectual faculty.--Hill. The voluntary determination of the intelligence to objects of knowledge.

4^6 How the term is applied.

1^7 As applied to external objects it is known as observation, which includes both stages of cognition, perception and judgment.

2[7] As applied to subjects of our own consciousness it may be designated reflection, which includes intuition and judgment. For an explanation of these terms, see outline.

5[6] Classes of attention.--Voluntary and involuntary.

1[7] Voluntary.

1[8] Etymology --From L. *volens*, the will.

2[8] Def.--The active direction of the mind toward any object of knowledge, either external objects or objects of consciousness.

3[8] Elements of voluntary attention.

1[9] The mind must have had experience in order to perceive relations.

2[9] The mind must have sufficient development to interpret that experience.

4[8] Age at which first experienced by the child --About 3 to 6 months.--Gordy.

5[8] Functions.

1[9] Development of interest in things not naturally attractive to us, but beneficial to us.

2[9] Development of continous attention, concentration, that the mind may direct its own energies.

2[7] Involuntary.

1[8] Etymology.--L. *in*, within, and *volens*.

2[8] Def. -That attention which results from the influence exerted upon the mind by the thing attended to, in and of itself.

3[8] Also called non-voluntary.

4[8] Causes in children --Gordy.

1[9] The quality of sensations or their character as pleasurable or painful.

2[9] The intensity of the sensation.

6[6] Knowledge depending on attention.

1[7] The objects of knowledge to which attention may be directed include everything, external objects and objects of consciousness, upon which mental force may be made to bear.

2[7] Gordy says what we are conscious of depends upon attention, as does also what we perceive, remember, recollect, believe, feel, and will.

7[6] Relation of attention to mental activity.--When our brain activities are thoroughly habitual there is no attention, but it is doubtful if there is any mental activity in such cases. Authors generally admit that there can be no mental activity without attention. Can we attend to more than one thing at a time? "In a case of perfect attention the mind's forces are all brought to bear upon one thing, but experience shows that in imperfect attention the mental force is divided."--Hewett. It is said that we could reach no conclusion in comparing two things unless the mind have both before it at once. But we believe it possible for the attention to vibrate from one to the other in rapid succession. Try it in close analysis or comparison, and see if the attention must not be wholly upon the one while it is forming concepts of it with which to compare the concepts formed of the other. Sir William Hamilton says, however, that the mind can attend to as many as six things at once, but that the intensity is weakened in proportion to the number of objects before the mind. See Steele, Schuyler, Hewett, Gordy, and Sully.

8[6] Laws of attention.

1[7] Especially with children, whatever is curious, odd, bright, noisy, etc., attract the attention and develop it.

2^7 Whatever occasions strong emotions of pleasure or of pain claims the attention.

3^7 The degree of the attention will vary with the exciting cause, or stimulus.

4^7 Variety of related objects attract the attention.

5^7 Attention is more likely to be aroused if the object accords with one's tastes and tendencies.--Baker.

6^7 Weber's Law.--In order that a sensation may increase in quantity in arithmetical progression, the stimulus must increase in geometrical progression, which expresses a general truth.

9^6 Conditions unfavorable to attention.

1^7 Too frequent repetition.

2^7 Abrupt or rapid transition from one subject to another.

3^7 Prolonging an effort to weariness.

4^7 External influences that are more exciting stimuli than those designed to be kept before the mind.

5^7 Mental agitation from fear, etc.

6^7 Tasks too difficult to comprehend.

7^7 Ill health causing bodily pain.

10^6 Motives proper to employ to secure it.

1^7 The fear of pain, in exceptional cases.

2^7 The love of praise. To be used with caution.

3^7 The hope of future good.

4^7 The desire to excel in merit.

5^7 The motives of duty: do the right because it is right.

6^7 All proper incentives to study. The Royal Seven --Dr. White.

1^8 A desire for standing or rank.

2^8 A desire for the approbation of equals and of superiors.
3^8 A desire for activity and power.
4^8 A desire for knowledge.
5^8 The hope of future good.
6^8 A sense of honor.
7^8 A sense of duty.

11^6 Growth of attention.

1^7 The early life of a child is almost a continual exercise of this power, the stimuli being presented through the senses, especially of sight, touch, and hearing.

2^7 Cultivation.--As the attention is under the control of the will it can be cultivated. This may be done by a persistent exercise of the will power over the mind's movements. Like the law of habit, it grows by repetition under proper circumstances.

3^7 Results of concentrated and prolonged effort. --Genius is simply a persistent, continuous attention. Without it the greatest natural genius is doomed to failure. With it, any student can command success.

3^5 Conception. See Consciousness, Attention.

1^6 Etymology.–From L. *con*, meaning with, and *capere*, to take, signifying a taking or grasping together.

2^6 Varied use of the term.

1^7 Formerly used to denote the power, the process, and the product of forming general ideas.

2^7 Recent authors have chosen concept to denote the product of conception.

3^6 Def.–Conception is the process of forming a general notion, or idea through the operation of analysis, abstraction, and generalization.

4^6 Authors compared.--That process of elaboration by which the intellect forms general notions of classes of objects having common attributes.--Schuyler. The process of forming abstract or general ideas.--Hill. The process of forming a general notion of a class of similar objects.--Baker. The power by which we see with the mind's eye.--Hewett. The whole mental activity by which the complex precess of analysis, abstraction, and generalization is performed.--Putnam.

5^6 Processes, or steps of conception.

1^7 Presentation.--That step in the formation of ideas which consists in presenting the objects of knowledge through sense-preception. Some call this step observation.

2^7 Comparison.–That step by which objects of knowledge are presented to the mind by noting their points of similarity.

3^7 Abstraction.--From L. *ab*, off or from, and *trahere*, to draw. That process by which we "draw off" for further attention, the common characteristics of the objects examined.

4^7 Generalization.--L. *genus*, meaning kind. That process in conception by which we select the common attributes found in an entire class of objects. It embraces synthetic specification, or the formation of species from individuals; and generification, or the formation of genera from species.

5^7 Denomination.

1[8] Def.--That step by which we assign names to the classes formed by generalization, and these classes, with the concepts of them, become embodied in verbal signs.

2[8] What it embraces: Nomenclature.–The collection of the names applied to the classes of objects grouped in a science. Terminology.–The collection of the names of these parts and properties of individual objects belonging to a science. (Condensed from Schuyler.)

6[6] Relation of conception to classification.

1[7] Classification is forming groups of objects having common qualities,

2[7] While conception is forming a general notion of the class of such objects.

7[6] What the term conception embraces.

1[7] It is not a faculty.–It is a general power of the soul, largely under control of the will, but it accompanies each of the mental powers and produces no specific result alone.

2[7] The act of the mind and the product of this act.

3[7] Concepts.

1[8] Def.--A concept is a combination of common attributes into a single term, but it is a mental product, not a verbal or written expression.

2[8] Classes.

1[9] Simple concepts.--The simple mental products of the representative power; see images and ideas.

2[9] General concepts.--The mental notions of a class of objects. The simplest act of thinking is the forming of the general concept or notion.--White.

3[9] Other terms.--Simple concepts are called individual concepts and general concepts are called logical

4[9] Difference between them.--The former represent individual things or objects, while the latter represent "a bundle of attributes that belong to every one of a class to which the term may be applied"

8[6] Cultivation of conception.

1[7] Why it may be done.--Because the will has almost exclusive control over our conceptions.

2[7] How it may be done.--Hewett.

1[8] Avoid "parrot" recitations, for in them you have words without their accompanying concepts.

2[8] Avoid mechanical reading and meaningless mathematical work.

3[8] Induce accurate perceptions of objects studied through the senses; hence, cultivate sense-perception.

9[6] Relation of conception to education.

1[7] It is essential to scientific knowledge.--Not an accumulation of isolated facts, but of facts grouped in classes according to known laws and known by a suitable nomenclature.

2[7] Steps of conception necessary to a scientific knowledge.--Abstraction and generalization in particular.

3[7] Conception is developed by linguistic study.

1[8] Language is made up largely of general terms, hence conception is developed.

2[8] It calls forth the habit of comparing.

4[7] It affords a criterion for the order of study. In

the growth of the mind there are three essential processess :

1^8 Apprehension of facts.--For example objects must be presented to the senses.

2^8 Analysis of facts.--For example, the parts of things studied must be separated.

3^8 Synthesis of relations.--The common characteristics of things studied must be united under general terms.

5^7 The method of developing abstract ideas. - Condensed from "Bain's Education as a Science"

1^8 The selection of particulars should be such as to show all extreme varieties.

2^8 The instances cited should bring out the agreements.

3^8 The accumulation of the facts should be continuous, until the effect is produced.

4^8 A sudden flash of agreement between things in many respects different is what is aimed at.

5^8 Aid can be derived from tracing the cause and effect. This is the crowning notion of science.

6^8 The number of instances necessary varies with the character of the things.

7^8 The name and the definition should be given along with the general notion, when it is formed.

2^3 Its Individual Powers, commonly called the psychical powers, (but general powers are also psychical.) See General Powers, p. 22.

1^4 The Intellect.

1[5] Def.--The faculty of knowing.--Hill. The soul possessing or exercising the power to know.--White. To think is the same thing as to know and comprehend.- Compayre.

2[5] Etymology.--From L. *inter*, between, and *legere*, to gather; indicating that knowledge is gathered in the transition from one experience to another.

3 Its functions.–Sully.

1[6] Discrimination.–The knowing of differences.

2[6] Assimilation.–The knowing of resemblances.

4[5] The product of knowing.–Knowledge.

1[6] Def.–That condition of certitude in the soul that arises when realities or relations are consciously apprehended.–Hill.

2[6] Objects of Knowledge.–White.

1[7] Subjective, or subject-objects.–The acts and states of the soul and their products.

2[7] Objective, or object-objects.--External material objects.

3[7] Relational, or relation-objects.--The relation of objects, whether discerned intuitively or by thought.

3[6] Kinds of knowledge.

1[7] As to manner in which known.

1[8] Scientific.--Knowledge properly classified.

2[8] Unscientific.--Unclassified knowledge, simply information.

2[7] As to its stage in the soul.

1[8] Primitive.--Crude, first knowledge, as gained by the use of the perceptive powers alone.

2[8] Developed.--Knowledge in which the significance, relation, and use of what has been

gathered by the perceptive powers are centralized and classified by conception.

3^{7} As to powers of Intellect, by which known.

1^{8} Presentative knowledge.--The knowledge the soul has of itself and things immediately about it through self-consciousness, sense-perception, and intuition.

2^{8} Representative.--Knowledge the soul has of objects and their qualities when neither is actually present to the senses, but re-presented by ideas.

3^{8} Elaborative.--Presentative knowledge worked out by purely psychical processes into higher and more general forms.--Hill.

4^{8} Constitutive.--Knowledge acquired by an examination of postulates and hypotheses.

5^{5} Intellectual powers.--Three classes.

1^{6} Presentative powers.--Three in number.

1^{7} Self-Consciousness.--Authors generally make no distinction between consciousness and self-consciousness. For a study of the former see "General Powers." There may be the following distinction:

1^{8} Consciousness includes the three elements in every act of knowledge: The knowing subject, the object of knowledge, and the states of the soul as affected by the object of knowledge. But self-consciousness is limited to the soul's knowledge of itself in the act of consciousness.

2^{8} Forms of self-consciousness.--Hill.

1^{9} Spontaneous.--May be called inherent, such as savages possess--a consciousness without an inquiry into cause and effect.

2[9] Reflective.--"That energetic realization of self-existence acquired by profound reflection upon the nature and cause of our beings."

1[10] Its normal forms.--The philosophical and the ethical.

2[10] Its abnormal forms.–The precocious, the egotistic, the hypochondriacal.

2[7] Sense-perception.

1[8] Def.--The soul's power to know material objects, to know the non-Ego. It is the foundation of all our knowledge, but not the immediate source of all knowledge, as we may gain knowledge by intuition and self-consciousness also. As indicated by the term itself, it is perception through the senses.

2[8] Etymology.–From Latin *per*, meaning through, and *capere*, to take. This implies taking in knowledge through one or more of the senses

3[8] Uses of the term.

1[9] To designate a power.--We speak of the perception possessed by the soul.

2[9] To designate an act.--As your perception of sound is not acute.

3[9] To designate the thing perceived

4[8] The physical conditions of sense-perception.

1[9] Material object, or external excitant, capable of furnishing an impression.

2[9] The nervous organism, or sensorium, adapted to receiving and conveying impression.

3[9] The sensorial excitement, or the actual excitation of the sensorium. These three conditions of perception may be called the antecedents of perception.

5[8] The psychical elements of sense-perception.

1[9] Perception proper.--The act by which the external object is known. An act or process of the mind immediately successive to a sensation, by which we refer this sensation to something external as its cause.--Steele.

2[9] Sensation.--A state of mind produced by some external object or influence operating on the sensorium The pleasures or pains which immediately follow a material phenomenon.--Compayre. A cognized affection of the nerves.--Hewett.

6[8] Classes of sense-perceptions.

1[9] An original perception is one that is obtained from the excitation of a single sense, and that the one exercised.

2[9] An acquired perception is given by one sense as a sign of knowledge usually gained by another.

1[10] Examples.--By the sound in the stethoscope the physician knows the condition of the heart, though he can not see it. By rapping on a barrel we know by the sound whether it is empty, partially filled, or entirely filled. Here the sense of sound gives us an acquired perception that might be given by the sense of sight.

2[10] Classes of acquired perceptions.

1[11] Those of touch are the most valuable. To the artisan they are a kind of mechanical conscience.

2[11] Of smell.--The odor of a peach will cause us to identify the object.

3[11] Of taste.--By taste we have perceptions of objects commonly known to us by smell.

4[11] Of hearing.--We have perceptions of a person by the familiar sound of his footstep.

5^{11} Of sight.--We judge of distance by sight, also the intensity of color and distinctness of outline. We judge of the magnitude of objects by distance and by comparing them with other objects known to us or in the same view with other objects.

7^{8} Classification of the Senses.

1^{9} Molar or dynamical senses.--Tactile, the sense of touch, and acoustic, the sense of hearing.

2^{9} Molecular or chemical senses.--Dialytic, the sense of taste, and catalytic, the sense of smell.

3^{9} Intermolecular or etheric senses.--Thermic, the sense of temperature, and photic, the sense of sight.

8^{8} Percepts.

1^{9} Def.--A percept is a simple and single presentation of sense-perception--an isolated fragment of knowledge. Any object of knowledge as known by us is a group of percepts. Putnam says a percept is a complete mental product of the act of perceiving. The individual notion we get of an object by our senses while we are exercising our senses upon it.

2^{9} Difference between percept and concept.--When our senses cease to act upon an object, the notion that persists or returns is a concept of it.--Hewett. When several successive and related percepts are united into one psychical whole the result is a concept, particularly a sense-concept.

3^{9} Difference between percept and image.--A sense-concept, or a percept revived by an act of the memory, is usually called an image, but it is doubtful if percepts of smell, sound, and taste

may be revived into images. They may be called sense-concepts, however.

9^8 Relation of perception to education.

1^9 Sense-perception furnishes the crude material for all mental activity, except that mentioned in intuition and the soul's knowledge of itself in self-consciousness, which together include much less than sense perception.

2^9 The growth of the perception is the growth of our discriminative power, that is, our consciousness of differences and agreements.

3^9 A study of the laws of perception teaches us that the earliest studies of childhood should be objective and presentative.

4^9 Concrete facts and not abstract ideas should be imparted, and by actual observation whenever possible.

5^9 The method of study should be that of object lessons.

6^9 The improvement of sense-perception is attained by exercise.

7^9 The degree of education and the kind of knowledge the child has already obtained through sense-perception before he enters school should be recognized there, and his training continued according to the laws of mind growth. The perceptive faculty should continue to be exercised.

8^9 These facts are the basis of Kindergartenism, which was founded by Frederick W. Froebel, a German thinker, 1782-1852, who borrowed the idea from John H. Pestalozzi, a Swiss educator, 1746-1827. The etymology of the word kindergarten really means a children's garden, a place where the child-mind can be naturally developed

by exercise in the lines of activity in which the child-mind delights. Here is an all-important thought for teachers of primary grades.

3^{7} Intuition.–See 1^{7} Self-consciousness, etc.

1^{8} Def.–That power of the soul by which we know certain fundamental things without being taught. –Hewett. The power of mind which makes us acquainted with simple, primary ideas and truth. –Putnam

2^{8} Relation.–Knowledge which appears to come of itself by some law of mind, but not by any process of reasoning.

3^{8} What intuition embraces.–Ideas and truths.

1^{9} Intuitive Ideas.

1^{10} Def--Ideas that spring from the mind's own energy.

2^{10} Classes of intuitive ideas.

1^{11} Ideas of space.--Evidently space is not known through the senses, nor by self-consciousness.

2^{11} Ideas of duration are intuitive.

3^{11} Ideas of time are intuitive.

4^{11} Ideas of being.--All men naturally, intuitively believe in their own existence.

5^{11} Ideas of right and wrong.- Children naturally have an idea of right and wrong at a very early age. Teachers should place more stress upon this fact in dealing with the young child.

6^{11} Ideas of personal identity.--I can not rid myself of the idea that I am the same person I always was. No testimony or argument could change my conviction, hence, the idea is intuitive.

3^{10} Nature.- A knowledge of intuitive ideas is innate, and for that reason intuition may be called natural reason. Idiots are lacking in intuition, while an insane person may lose his intuition and still reason logically.

2^{9} Intuitive Truths.

1^{10} Def.--Truths which every sane and sound mind apprehends at once, without the aid of memory, judgment, or reason.

2^{10} Synonyms.--Necessary truths, self-evident truths.

3^{10} Characteristics, or tests.--If a truth possess the following characteristics it is intuitive.

1^{11} Universality.--It must be the truth everywhere and at all times.

2^{11} Self-evidence.--They can not be demonstrated. No amount of evidence can make them more distinct. We can not disbelieve them.

3^{11} Necessity.--To contradict any intuitive truth is at once manifestly absurd.

4^{11} Singleness.- No intuitive truth can be resolved into other truths—they can not be analyzed into simplicity.

4^{10} Examples of such truths.

1^{11} Two thing can not occupy the same space at the same time.

2^{11} The whole is equal to the sum of all its parts.

3^{11} All axiomatic truths.

2^6 Representative Powers.--See 1^6 Presentative.

1^7 Def.--That intellectual power by which objects, their qualities and relations, not actually present to the senses, are represented by concepts, ideas, and images. Let the student see the definition of each of these terms.

2^7 Illustration.--A year ago I witnessed a memorable scene in Chicago. At that time I had immediate or presentative knowledge of the objects about me. To-day I have a representative idea of that scene that still gives me a distinct knowledge of it.

3^7 Classification.

1^8 Phantasy. (2^8 Imagination. 3^8 Memory.)

1^9 Def.--The power of the soul to reproduce its past acts and states spontaneously and involuntarily. The images thus reproduced are not recognized as products of past experience, and usually seem as present realities.

2^9 Etymology.--From the Greek *phantazein*, to cause to appear.

3^9 When exercised.- When the other intellectual powers and the will are at least partially passive. It occurs in reverie, dreaming, delirium, somnambulism, hypnotism, and insanity. The first is the simplest form.

4^9 Distinction between phantasy and memory.

1^{10} The function of phantasy is to reproduce.

2^{10} That of memory is to recognize.

5^9 Causes.--"A heat-oppressed brain," disordered stomach, anticipation of future pleasures, brooding over real or imagined wrongs, and various forms of disease.

6[9] Characteristics of the idea reproduced by phantasy.

1[10] It is less vividly realized than the original.

2[10] They are slowly combined.

3[10] The representative image usually contains fewer elements than the original.

7[9] The modes of reproducing images.

1[10] By physical stimulation.–Hill says sounds have been known "to ring" in the ears for fifteen days after a musical concert.

2[10] By physiological stimulation.

3[10] By psychical stimulation.

2[8] Imagination.

1[9] Def.–The power to modify and recombine images and ideas. Sense-concepts are not reproduced in imagination.

2[9] Activities of the imagination.–Ruskin.

1[10] Associative, as exercised by the painter who imagines an object less than its real size.

2[10] Penetrative, when one seeks out the central idea in connection with an object.

3[10] Contemplative, when one is lead to employ other images in connection with an object.

3[9] Limits.–Imagination recombines truthful concepts into complex images and pictures unlike anything known, but still within the limits of possibility, while phantasy combines without regard to law or possibility. Baker says "Phantasy simply recalls, memory recognizes, but imagination constructs," to which we would add, Phantasy recalls and reconstructs without regard to the possible.

4[9] Varieties of imagination.–Hill.

1[10] Scientific, in which the end is to realize more completely the true relation of things. It has three forms—mathematical, mechanical, and philosophical.

2[10] Artistic, the end being to realize such relations as will give pleasure to our æsthetic nature, under the guidance of sensibility. Its forms are, poetical, pictorial, and architectural.

3[10] Ethical, the end being the realization of an ideal character and conduct, such as will satisfy the convictions of conscience, under the guidance of the will.

5[9] Relation of imagination to education.

1[10] Used in acquiring knowledge.

1[11] In reading we must exercise the imagination in combining into mental pictures the elements of thought suggested.

2[11] In listening we must do the same.

3[11] In studying science.—For instance in chemistry: atoms and molecules are invisible. In astronomy: the solar system as a whole is not presented to the senses. In geology: we can picture geological periods only in succession. In geometry: we can comprehend figures by the aid of the imagination.

4[11] In acquiring immediate knowledge we must use it. The senses give us only fragments of knowledge, which must be combined and unified in the mind.

2[10] Used in rhetorical production.—In composition it aids us to grasp the subject; to form a plan; in the search for material; in arranging this to meet a purpose; in the selection of figures of speech.

3[10] Other uses of imagination.–Hewett.
1[11] For pure enjoyment.
2[11] Imagination may lighten life's burdens.
3[11] It gives vividness and force to language.
4[11] It is essential to success in some of the most practical affairs of life.
5[11] It makes possible all that art gives us, both of enjoyment and of culture.
6[11] It gives us the idea of personal excellence toward which we strive.
7[11] To the teacher, it may be of great service in imparting knowledge; it may assist greatly in governing, especially in the case o small children; the successful building of good character is not possible without appeal to the imagination.
4[10] General laws of imagination.
1[11] In imagination we use the materials derived from our experience.
2[11] We only imagine particular and concrete notions, while we may think abstract and general notions.
3[11] The imagination tends toward the production of ideals only.
4[11] The imagination constructs according to the laws of association, which see under "Memory."
5[10] The training of the imagination.
1[11] The characteristic of an undisciplined mind.–Superfluity of images and ideas, disorderly, lacking in unity and design.
2[11] Aim of the educator.--To prune away redundancies, to supply deficiencies, and re store unity and order in the mental store-house.
3[11] Means of training.
1[12] By having pupils observe nature.

2^{12} By practicing the paraphrasing of poems.

3^{12} By study of imaginative literature.

4^{12} By having pupils practice writing on subjects purely imaginative, construct questions and problems, and make efforts at poetry. This wonderful faculty is very active in children and should be carefully "drawn out" by the teacher.

6^{10} Phases of imagination. -White.

1^{11} Modifying phase.--Appears very early in the child's life and includes, 1st, the imagining of one thing to be another known thing; 2nd, the imagining of a known object, material or spiritual, to be enlarged or diminished, or otherwise changed

2^{11} Constructive phase. -Eminently the school phase, and is used in teaching reading, geography, history, etc.

3^{11} Creative phase.--The imagination that furnishes the artist, inventor and discoverer with their ideals, and characterizes the dramatist, poet, and novelist.

3^{8} Memory. (1^{8} Phantasy, 2^{8} Imagination.)

1^{9} Def.--That representative power which brings before the mind concepts of absent objects, causing us to recognize and reknow them as once known.

2^{9} Authors compared.--The soul's power to represent and reknow objects previously known or experienced.--White. The power of the mind to retain, to reproduce, and to recognize its previous acquisitions.--Putnam. The capacity to retain, and the power to recall, represent, and recognize our previous cognitions.--Schuyler.

That intellectual function which preserves and renews inner states of consciousness.--Compayre. The reproduction of some idea once present in the mind but not now so, with a reference of it to its proper place in time. -McLellan.

3[9] The acts of memory.--Three in number.

1[10] Retention.

1[11] Def.--That function of the memory which produces a continuation of concepts in a passive state of intelligence.

2[11] Its importance.--Recollection or reproduction depends upon retention. Retention depends upon the degree of attention mainly.

2[10] Reproduction.

1[11] Def.--That function of memory which brings again into consciousness the concepts of objects once known but not now, present.

2[11] Importance.--Our acquisitions of knowledge are of no use to us unless we can recall them with readiness and accuracy when we will. See "Laws of Association" below.

3[10] Recognition.

1[11] Def.--That function of memory which reknows concepts when recalled as being former acquisitions of the intellect.

2[11] Importance.--It is the last and completing act of memory. Retention and reproduction would both be useless without recognition.

4[9] Varieties of memory.

1[10] Perfect and imperfect.--In perfect memory we recognize the time and place, i. e., when and where the object was formerly known. Very few of our acts of memory are perfect.

2^{10} Voluntary and involuntary memory.--These terms are more properly applied to recollection or reproduction. Voluntary recollection is the recalling of past acquisitions through an effort of the will. This recognizes a very important law, that the power of recollecting is increased by exercise. Involuntary recollection is the recalling of concepts through their association with ideas already in the mind, and without an effort of the will.

5^{9} Conditions on which to improve memory.

1^{10} Make your acquisitions under the most favorable circumstances of physical and mental states.

2^{10} Preserve the vigor of the mind by exercise.

3^{10} Frequently repeat your cognitions and recollections.

4^{10} Make frequent and accurate reproductions of your acquisitions through the medium of language—write them and speak them.

5^{10} Always ascertain relations of objects and store up concepts of them as classified knowledge.

6^{10} Always strive to identify reproduced ideas, understand what you may think you know but in reality only seem to know.

6^{9} Forgetfulness.

1^{10} Amnesia.--A loss of memory; caused by diseases or wounds affecting the brain, old age, excessive use of the memory, or by anæsthetics.

2^{10} Degrees of forgetfulness --Schuyler.

1^{11} When the displacement is momentary.

2^{11} When the withdrawal of attention is voluntary.

3^{11} When the recollection requires an effort.

4^{11} When we can not, at present, recall.

5^{11} When repeated efforts to recall have failed.

7^{9} The Laws of Association.

1^{10} Def.--They are laws governing the relation of impressions. They were first laid down by Aristotle. (See "History of Education.")

2^{10} Classification.

1^{11} Primary or objective laws.--Refer to the relations existing between thoughts or the objects of thought.--See McCosh's Psychology.

1^{12} The Law of Similarity.--Objects or thoughts which resemble each other tend to recall each the other.

2^{12} The Law of Contrast.- Contrasted ideas tend to recall each other. Many objects, also, when presented to the mind tend to recall other objects in contrast with them

3^{12} The Law of Contiguity --Objects and ideas associated in time or place tend to recall each other.

1^{13} Contiguity of time.--Very important in school instruction. We associate Washington and the Revolution; Lincoln and emancipation; and many of the most important facts in history.

2^{13} Contiguity of place.--Events are associated with the places at which they occurred; the metals with the mountainous countries; the grains with the fertile soil, and numerous other examples in history and geography.

2^{11} Secondary or subjective laws.--Refer to conditions of both mind and body which contribute to make the association of ideas more complete.

1[12] The relation of cause and effect.—By reason the mind will arrive at a conclusion when a cause is known, or accurately presume the cause when the effect is known.

2[12] Exclusive attention and clear discrimination during the acquisition of knowledge will tend to fix that knowledge.

3[12] Familiar objects and thoughts often reviewed tend to make knowledge more permanent—hence, the importance of repetition, even though it be merely mechanical with children

4[12] If our individual feelings, habits, and tendencies are favorable, ideas will be most permanent.

5[12] The more recent the experience the more readily it may be recalled.

8[9] Cultivation of the memory.

1[10] General rule.—If the teacher or the student adhere strictly to the application of the laws of association in their connection with attention and reproduction, a sound and vigorous memory will be the reward.

2[10] Special rules.

1[11] Skillful questioning brings the mind in close contact with the relations between facts, and these relations become the bonds of association for the memory.—Dr. Baker.

2[11] For the greater part, memory should be a memory of ideas rather than of words.

3[11] Interest is the mother of attention, and attention is the mother of memory; hence, create an interest to spring up in the mind of the student.

3^{10} Memonic devices.--Simonides, the Greek poet of 500 B. C., was the first to use this method. The value of mnemonics is questionable. In some instances they assist what may be called the mechanical memory. See Sully's Hand-Book for an excellent treatise upon the subject of memory culture.

3^{6} Thought Powers. 2^{6} Representative.

1^{7} Def.--The powers of intellect by which we form and rationally apply general conceptions.

2^{7} Classification.--Conceptive Generalization, Judgment, and Reason.

1^{8} Conceptive Generalization, or Conception --The author thinks this one of the intellectual powers inseparably connected with the other functions of the intellect, hence has classed it as a General Power, which see.

2^{8} Judgment.

1^{9} Def.--The process of asserting agreement or disagreement between ideas.--Hill.

2^{9} A judgment.--The psychical product of judging when expressed in a proposition is a judgment.

1^{10} Parts of judgments.--Every judgment embraces the expression of two related ideas. One of these is the subject, the other the predicate. They are joined by the copula. These are the three necessary parts of a proposition.

2^{10} How a judgment is obtained.--By affirming or denying one thing of another. It can only be arrived at by comparing the

agreements, relations, and differences between ideas or things.

3[9] What judgment implies.--No one can form a judgment without a pre-existing knowledge of the agreements or differences between the things to be judged. This knowledge may be obtained almost immediately before making a judgment concerning them, but it must be known.

4[9] Age at which judgment is first developed.--It is an earlier faculty than reason, and is probably manifest in observing children at the age of 3 or 4 years. Dr. White thinks that the judgment awakens at the age of three and reason at the age of six, generally.

5[9] Classification of judgments.

1[10] As to origin.

1[11] A primitive judgment.--Not derived from any other judgment, and may be intuitive or a mere assumption.

2[11] A derivative judgment.--One derived from other judgments, and may be called demonstrative when capable of proof, and problematical when incapable of proof.

2[10] As to relation of their two ideas.

1[11] Affirmative. -When the two ideas are consonant, or possess agreement; as, "The man is insane."

2[11] Negative.--When the two ideas are not compatible, or possess disagreement; as, "The man is not insane."

3[10] As to their scope, or quantity.

1[11] Singular, or particular.--Those made about single things or parts of a class; as, "This man is insane."

2[11] Universal.--Those relating to classes or the whole of a subject, and must be true at all times and in all places; as, "No work of man is enduring," showing also that singular and particular judgments may be affirmative or negative.

4[10] As to form.

1[11] Categorical.--When the relation is expressed without qualification by conditions; as, "Man is mortal," "Some men are wealthy."

2[11] Conditional.--In which the judgment is conditioned on an hypothesis, an alternative, or both; as, "If Mars is a fixed star it is a sun."

6[9] Relation of judgment to education.

1[10] How far can we encourage independence of judgment in the learner?--Hill says "To develop power without conceit is the teacher's difficult task." The teacher should lead out and guide the self-confidence of the pupil, but give him to see that his judgments must be subject to the revision and correction of the teacher.

2[10] Cultivation of the judgment.--The exact sciences and experiments in the laboratory are the best means of cultivating the judgment. All lessons gained by experience strengthen the judgment.

3[8] Reason. See Conception and Judgment.

1[9] Def.--The process by which we prove the truth or falsity of a proposition.

2[9] Authors compared.--A process of inference in which a new judgment is derived from other known judgments.--Hill. A combination of

judgments brought together in such a way that the result is a legitimate conclusion of the comparison. --Compayre. The process of comparing judgments. --Putnam.

3[9] The forms of reasoning.--When expressed in full the process of reasoning is expressed in a regular series of judgments.

1[10] Implicit.--When the grounds for the conclusion are assumed as understood and admitted. See enthymeme.

2[10] Explicit.--When the whole series of necessary judgments are formally expressed. See syllogism.

4[9] Methods of reasoning.

1[10] Induction.

1[11] Def.--The process of inference, or the process of inferring general judgments from particular instances.

2[11] Authors compared.--The process of rising from particular truths to general truths.--Compayre. The operation of reaching a general truth by an examination and comparison of facts.--Sully. Reasoning from individuals or particular classes to general facts.--Steele. In short, it may be called proceeding from the known to the unknown, from fact to law.

3[11] Its form.--One of the three terms may be omitted, but three propositions may be used in induction. The conclusion reached by induction may be used as a premise in deduction, which see.

4[11] Basis.--The belief in the uniformity of the laws of nature is the ground upon which we

argue from the known to the unknown."—Dr. Baker, President Colorado University.

5^{10} Processes of complete induction.

1^{11} Observation or experiment.

2^{11} Stating an hypothesis.

3^{11} Reversing by deduction, and verification.

2^{9} Deduction.

1^{10} Def.—An act of judgment by a mediate process in which we arrive at a particular conclusion based on a general law.

2^{10} Authors compared.--The process by which we derive a particular truth from a general truth.--Hewett. Deduction descends from principle to consequence.--Compayre. Reasoning from a general fact to a particular fact.--White.

3^{10} Forms of deduction.

1^{11} The enthymeme.--An enthymeme is an abridged syllogism, a statement in which a conclusion is reached by omitting one of the three propositions of the syllogism. The omitted statement must be evidently true in order that the conclusion may be undeniable.

2^{11} The syllogism.

1^{12} Def.--That form of deduction in which the conclusion is reached by means of three related propositions.

2^{12} Parts.

1^{13} Major premise.--The proposition containing the major term and expressing an affirmation of the class; "All men make mistakes."

2^{13} Minor premise.--The proposition that states that the individual in question be-

longs to the class named in the major premise; "Charles Brown is a man."

2^{13} Conclusion.--The proposition expressing the resulting judgment based on a comparison of the two premises; "Therefore, Charles Brown makes mistakes"

3^{12} The terms.--The subject of the conclusion is the Minor Term; the predicate of the conclusion is the Major Term: the term with which these two are compared is the Middle Term.

4^{12} Illustration.--In the example given "Charles Brown" is the minor term: "makes mistakes" is the major term; "man" is the middle term.

5^{8} Relation of reason to education.--Inductive reasoning is best developed by a study of the natural sciences, while deductive reasoning is greatly improved by a study of mathematics. The importance of developing the reasoning powers of pupils can hardly be over-estimated by the teacher.

2^{4} Sensibility. (1^{4} Intellect, p 34.)

1^{5} Def.--The soul exercising the power to feel.

2^{5} What it includes.--Corporeal feelings and psychical feelings

3^{5} The sensibilities.--The term is applied to the various states of feeling.

4^{5} Classification.

1^{6} Corporeal feelings.--Outlined in connection with the nervous system and sense-perception.

2^{6} Psychical feelings.

1[7] The emotions.

1[8] Def. -Simple feelings arising in the mind in consequence of some knowledge of certain facts, or some general consciousness of condition.--Steele, p. 174.

2[8] Classification.

1[9] Instinctive.--Those feelings of joy or sorrow experienced especially by young children, usually aimless, and occasioned by an accumulation of energy or a lack of energy.

2[9] Rational.-- Those feelings that arise in the soul in consequence of some activity of the intellectual powers. They may be excited through the senses, or by recollection or by anticipation.

1[10] Egoistic emotions.

1[11] Joy and sorrow.–These terms include many forms of gladness and depression, mirthfulness and melancholy, etc.

2[11] Content and discontent.–May be made to include satisfaction and dissatisfaction.

3[11] Pride and humiliation.- With the first might be placed self-love, self-respect, etc.

4[11] Hope and fear.–May be subdivided.

2[10] Altruistic emotions.

1[11] Sympathy and antipathy.

2[11] Love and hatred.--These may be classed under the affections, which see.

3[10] Æsthetic emotions.

1[11] Wit, humor, the ludicrous, etc.

2[11] Beauty, grandeur, sublimity, etc.

4[10] Ethical emotions.

1[11] Emotions of right and wrong.

2[11] Of duty, responsibility, obligation, etc.

2^{7} The affections.

1^{8} Def.–They are feelings of the soul directed toward external objects, such as the love of God, of home, of country, of kindred, etc.

2^{8} Classification.

1^{9} The beneficent affections.–Feelings of good-will toward those we wish to benefit in some way.

1^{10} Domestic affections, such as parental love, filial love, and fraternal love.

2^{10} Social affections, very numerous.

1^{11} Friendship, gratitude, sympathy, compassion, etc.

2^{11} Patriotism and philanthropy.–Patriotism is that feeling which causes us to place first in our affections the ethics of our families, then of our neighbors, then our state, and next our country. Philanthropy is a feeling of good-will going out to the human race in general with a desire to make all mankind better.

2^{9} The defensive affections.–Putnam, p. 138.

1^{10} Def.–Feelings that prompt to self defense or the protection of others.–Same.

2^{10} Resentment.–"It springs up in the soul when we believe ourselves to have been insulted, injured, or wantonly wronged by deliberate intention, and when the injury or wrong may work serious harm to us in person, property, or reputation."–Same, p. 139.

3^{10} Indignation.–The feeling which prompts one to protect and defend others who have been unjustly injured or wronged.

3^{9} The maleficent affections.

1^{10} Def.—Those feelings directed toward others with the intent to do them harm.

2^{10} Some of the forms.—Anger, hate, prejudice, jealously, envy, revenge, malice.

3^{8} Importance of the affections.—The teacher should strive to understand human nature. A careful study of the affections in their relation to the work of the school is of vast importance to every teacher

3^{7} Desires.

1^{8} Def.—The longings of the soul for some real or supposed good not possessed.

2^{8} Classification.

1^{9} Desire for property.—The mainspring of industry, all advancement and civilization depend on it.

2^{9} Desire for knowledge.—This springs directly from the feeling excited by curiosity. Its stimulus must not be overlooked in the education of the child.

3^{9} Desire of self-preservation.—It may be instinctive or voluntary. Needs no illustration No principle in our beings is stronger than this one.

4^{9} Desire of power.—This desire is strong and natural, and should sometimes be curbed and sometimes encouraged.

5^{9} Desires for liberty, happiness, esteem, and general worthiness.

3^{4} The will. (2^{4} Sensibility, 1^{4} Intellect.)

1^{5} Def.—The soul's power to do, or to exert conscious action toward some definite end.

2^{5} Forms of activity.

1[6] Non-voluntary or reflex.--Does not include functions of the will as the term is ordinarily used, but functions of the *doing* power of the soul nevertheless. All our random, reflex, and instinctive movements come under this head.

2[6] Voluntary, activity of the will proper.

1[7] Steps in the process.

1[8] Objects are presented to the mind, through the sources of desire, motive, or sense-perception; the objects may be physical or mental.

2[8] Examination and analysis.--The mind requires some time to perceive relations before an act of the will is completed. This step includes the excitation of a feeling.

3[8] Choice.--Desire prompts the possession of the object, while aversion prompts rejection. Here perfect freedom of choice is exercised.

4[8] Executive volition.--The final act of the will, by which desires culminate into reality of possession.

2[7] This voluntary activity alone subject to training.

3[5] Moral training.

1[6] Depends upon the training of the will.

2[6] Methods.

1[7] As knowledge tends to awaken feeling, it is all-important that right feelings be awakened. In some children these feelings may be dormant, but by skillful training the feelings may be awakened, then directed.

2[7] Stories effectively told biographies beautifully expressed, some fairy tales judiciously told, all may tend to cultivate the moral nature.

3^7 Feelings may be ennobled by use of literary gems, songs, and works of art. School-rooms should be adorned with suitable pictures.

4^7 By example.--Moral instruction from mouth to ear will hardly reach the heart—it must come from the heart and the life of the teacher.

(See "Qualifications of the Teacher" in Outline of Pedagogy.)

OUTLINE OF PEDAGOGY.

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1[1] Def.--See "History of Education," following this outline.

2[1] Synonyms.--Science of Teaching, Paideutics, Science of Education.

3[1] Basis of Pedagogy.--The one comprehensive end of pedagogy is to prepare man a being of capacities, susceptibilities, and possibilities, for the most complete fulfillment of the purposes for which he was created.

4[1] Means of accomplishing these purposes.--Physical, Psychical, and Technical, or power, knowledge, and skill.

5[1] Kinds of education based on the means.

1[2] Physical education.--The development and training of the bodily powers.

2[2] Moral education.--The development and training of the moral faculties with a view of forming character.

3[2] Intellectual education.--The development and training of the intellectual powers along the laws governing the processes in the acquisition of knowledge.

6[1] The elements.--Knowledge, power, and skill.

1[2] Knowledge as a result of teaching.

1[3] Original.--Obtained without the aid of a teacher, by observation and reflection, chiefly from nature.

2^3 Recorded.—Knowledge obtained from books, paintings, sculptures, newspapers, etc.

3^3 Tuitionary.—That obtained directly from the teacher. In each case the mind can receive knowledge only when it puts forth an inner energy.

2^2 Power.

1^3 Inherent.—The capacity of the intellectual, moral, and physical natures to receive ability from without, or their capability for doing when called into activity.

2^3 Acquired.—These intellectual, moral, and physical powers developed into lines of activity they would not have taken without tuition.

2^2 Skill, or educated and trained power.

1^3 School phase.—The trained power to practice the arts embraced in school instruction, such as writing, reading, singing, and use of language and numbers.

2^3 The technical phase.—Includes manual training and the practice of power in the mechanic arts.

7^1 Conditions of the application of principles to school government.

1^2 Subjective.

1^3 The teacher.

1^4 His qualifications.

1^5 Good scholarship.—His knowledge must be thorough, fresh, and progressive.

2^5 A thorough knowledge of the human mind.—Any artisan would be foolish to undertake a work without knowing his material. A doctor might as properly ad-

minister to the sick without knowing the body as the teacher without knowing the mind.

3^5 A thorough knowledge of methods.—Although teachers must not blindly adopt the methods of others, yet in all professions and trades we must know what methods have been most successful in the hands of others.

5^5 Skill in government.—Executive ability and tact.

6^5 Thoroughness of discipline.—Coming from a knowledge of human nature and of the end to be reached.

7^5 Must understand his pupils personally.—Must know their wants—moral, intellectual, and physical.

8^5 Heart power.—He must have love for his pupils, and a kindness not feigned.

9^5 Self-control.—His control of himself must be complete and his motives always pure.

10^5 Positive morality.—His character should be above reproach, his life pure, that his example may be worthy.

11^5 Respect for the profession.—Not only a thorough scholar, but a lady or a gentleman of dignity, who has a strong desire for professional improvement and to create a healthy sentiment for the profession on the part of all intelligent people.

2^4 His authority.

1^5 He must possess a certificate.

2^5 He must be legally employed.

3^5 He must have the support of his board of education.

4^5 He must be vested with all the authority necessary to carry out every detail of school management.

2^3 Pupils.

1^4 Their rights.--To equal attention, equal confidence, equal immunities, unless privileges are abused, and equal personal rights.

2^4 Their duties.-To themselves to be cleanly and neat in attire; to their teacher to be kind, respectful, and obedient; to each other to keep the Golden Rule; to school property a careful preservation; to the community respectful.

3^4 Their offenses.

1^5 Against themselves.--In tearing and soiling their books or clothing; in idleness; in bad manners; in saying and doing immoral things.

2^5 Against the teacher.--In disobedience and disrespectful obedience; in slandering the teacher in conversation with school-mates or others.

3^5 Against other pupils.- Encouraging them to do wrong; accusing them falsely; trying to create a sentiment of dislike upon the part of their teacher or their school-mates; injuring their books, clothing, or play-things.

4^5 Against the community.--Making a noise; throwing stones; molesting property; disrespect and rudeness toward the public.

5^5 Against God.--Profane language; vulgar language and conduct; scoffing at religion and religious customs; general immoral conduct.

4^4 Their rewards.

1^5 The approbation of teachers, parents, and friends.

2^5 Promotion in school or in society.

3^5 Successful life resulting from discipline.

4^5 Present material gain, such as prizes and other gifts.

5^4 Their punishment.

1^5 Deprivation of privileges in school, on the play-grounds, or private immunities.

2^5 Private or public reproof; teacher may some times use sarcasm, but with care.

3^5 Confinement, in school-room or solitary; from privileges of school or play.

4^5 Additional duties and repairing damages.

5^5 Public and private acknowledgment of offense, with petition for pardon and for reinstatement in class and in the confidence of the teacher and school.

6^5 Corporal punishment, private or public, usually the former; must accomplish purpose for which intended or it will be harmful.

7^5 Suspensions and expulsions.--Severe, but some times necessary. The claims of justice and the good of the school and of society demand protection.

2^2 Objective conditions—the environments.

1^3 The school-room.

1^4 It should be attractive and convenient.

2^4 It should be well heated and ventilated.

3^4 It should be adorned with pictures.

4^4 The light should enter from left and rear.

5^4 It should not be over-crowded.

2^3 The furniture.

1^4 Desks should be single and of pattern designed on sanitary principles.

2^4 Recitation seats should afford ample accommodations.

3^4 The teacher's desk should be provided with a waste-basket.

4^4 The blackboards, pencils, erasers, etc.,

should be the best and always kept in order.

5^4 Heating and ventilating appliances should be perfect and kept in good order.

3^3 The apparatus.

1^4 Should have a good globe.

2^4 Good wall maps and special charts.

3^4 Appliances for illustrating practical principles of weight, measures, mensuration, etc.

4^4 If grade of school is advanced, physical and chemical laboratories are essential.

5^4 A good school library.--No teacher can fully comprehend the disadvatages to which his school is subject without a good library, until he and his school have had free and frequent access to one. Every school should have a library of carefully selected books.

4^3 An educational sentiment.

1^4 The community must appreciate the efforts of her earnest educators.

2^4 The economy in public administration should not all be visited on the schools.

3^4 Boards of education need to possess more than average intelligence. An institution as sacred as the public school needs to be in the hands of earnest, thoughtful, progressive men.

8^1 Some Universal Principles.

1^2 Formulated by Joseph Payne, London, Eng.

1^3 First.–"Mind and body are mutually interdependent, and co-operate in promoting growth."

2^3 Second.--"Faculty of whatever kind grows by exercise."

3^3 Third.--"Exercise involves repetition, which, as regards bodily actions, ends in habits of action, and as regards impressions received by the mind, ends in clearness of perception."

4^3 Fourth.--"The exercise of the child's own powers, stimulated but not superseded by the educator's interference, ends both in acquisition of knowledge and in the invigoration of the powers for further acquisition."

5^3 Fifth.--"Natural education consists in the development and training of the learner's powers, through influences of various kinds, which are initiated by action from without and met by corresponding action from within."

2^2 Formulated by Dr. E. E. White in his "Pedagogy."

1^3 First.--"Teaching, both in matter and method, must be adapted to the capability of the taught."

2^3 Second --"There is a natural order in which the powers of the mind should be exercised, and the corresponding kinds of knowledge taught."

3^3 Third.--"A true course of instruction for elementary school cuts off a section of presentative, representative, and thought knowledge each year."

4^3 Fourth. --"Knowledge can be taught only by occasioning the appropriate activity of the learner's mind."

5^3 Fifth.--"The primary concepts and ideas in every branch of knowledge must be taught objectively in all grades of school."

6^3 Sixth.--"The several powers of the mind are developed and trained by occasioning their natural and harmonious activity."

7[3] Seventh.--"In the teaching of any school art, clear and correct ideals should inspire and guide practice."

OUTLINE OF METHODOLOGY.

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1[1] Def.--That division of the subject of education that treats of the principles of teaching as applied to school-room practice.

2[1] Extent.--Methodology belongs to both the science of teaching and the art of teaching. See "Laurie's Institutes of Education."

3[1] Universal Principles of Instruction.

1[2] Make instruction practical and find some good in everything.

1[3] Call for the reproduction of everything you teach and a practical application to the wants of a successful life.

2[3] Proceed from the known to the unknown by making everything known useful in obtaining new knowledge.

2[2] Follow the natural order of development of the faculties, as laid down in the subject of psychology.

3[2] Cultivate sense-perception in every lesson.—If anything taught can not be presented to the senses directly, then you should use representative knowledge and appeal to memory and imagination. If the subject be still more abstract, judgment and reason must aid conception in formulating correct ideas.

4[2] The true secret in the acqusition of knowledge

is the self-activity of the pupil; hence, teach to do by having the pupil *do*.

5^2 Teach one thing at a time, and that well

6^2 Practice your pupils in the analysis of complex things and in the synthesis of individual things into wholes.

7^2 Have your pupils understand distinctly what you wish them to do; they can do best what they see and hear *you* do.

8^2 Cultivate the imagination by frequent practice in composition, etc.

9^2 Cultivate the memory by applying the laws of association and by practice.

4^1 Methods in study.

1^2 Objects.

1^3 For discipline.--It develops and quickens all the intellectual activities, trains the sensibilities, and refines the affections.

2^3 For the acqusition of knowledge.--Stores the mind with facts and classifies them; increases the power to think and investigate; gives us an intellectual capital.

3^3 For professional purposes.--We are thus prepared for our professions; it improves our chances for success; helps us to originate and discover.

2^2 Incentives.

1^3 The benevolent desire.--To please parents, teachers, or friends; to do good and secure happiness; to perfect our knowledge and develop the soul.

2^3 The selfish desire.–To outrank others; to receive the praise of others; to increase our wealth; to make labor easier.

3^3 The involuntary incentives.—Pleasing stories; fascinating developments or discoveries; artificial stimulation through the senses.

3^2 Manner.

1^3 A clearly-defined purpose urges the will.

2^3 Attention, perception, and conception must be awake.

3^3 Investigations by analysis, induction, and deduction should be made.

4^3 Students should note facts learned and store them away analytically, *i. e.*, place them upon the proper "shelf" properly labeled.

5^3 Should study to know, not to recite.

5^1 The Recitation.

1^2 Objects.

1^3 To ascertain extent of pupil's preparation.

2^3 To have pupil's reproduce, express their knowledge.

3^3 To ascertain how well the pupil comprehends.

4^3 To correct wrong impressions formed in study.

5^3 To repeat and fix knowledge in the mind.

6^3 To enable the teacher to supply the deficiencies in the student s mind by giving him further directions.

7^3 To cultivate power of expression and to quicken the pupil's perception by immediate contact with other minds.

2^2 Mode of conducting.

1^3 Depends much upon branch of study, age of pupil, number in class.

2^3 By questions propounded in consecutive order to the entire class, or promiscuously; generally the last.

3^3 By "Socratic Method;" see "Socrates."

4^3 By topicai outlines, black-board drills, etc.
5^3 By topical recitation by pupil.
6^3 By requiring answers in complete sentences.
7^3 Sometimes by essays, lectures, illustrative lessons, experiments, etc.
8^3 No answer should be allowed to pass if not exactly correct and logical.
9^3 Skill in conducting recitations reveals the teacher's power as an instructor.

THE HISTORY OF EDUCATION.

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Pedagogy.—The theory or science of education, which embraces an inquiry into the principles upon which the art of teaching is based, and inquires into the validity of methods when applied to the laws of mental growth.

Didactics.—The practical application of the principles of pedagogy and psychology to the wants of the growing mind, in helping it to obtain the best food in the best way and at the best time; in short, the art, or practice, of education.

Teaching a Profession.—Is it? Education is looked upon by many people as expensive For this reason cheap (?) teachers are often employed in country districts and in primary grades. They are unqualified professionally, hence fail. By their failures they cast a cloud of disrepute over the profession, which subjects even professional teachers to a want of confidence from patrons. As a result, they are placed on a level with those who are only seeking a pittance for a livelihood, and their salaries are weighed in the same balance. These conditions and the insecure tenure of teachers, are the results of professional ignorance.

What is Education?—It is the development and training of the learner's whole nature by means of the conscious and persistent energy and influence of the instructor. Much of our education, however,

comes from the unconscious tuition of nature, individuals, and institutions.

History of Education.—A complete history of education would be co-extensive with the history of the development of the human race. Civilization is the direct product of education. The history of education sets forth the influences that have moulded the human race, and records the cause and effect of every step of advance or retreat in human progress. It is the true basis of all history.

Its Importance.—Every educator should study educational history. It is too generally neglected, even by professional teachers. It inspires every educational worker with greater zeal and professional enthusiasm by citing to him the examples and methods of the world's most renowned educators.

China and Japan.—Although we find little of importance outside the history of the Caucasian race, and, outside of Greece and Rome, little of ancient history bearing on the history of education, yet a few nations should be studied. In the Chinese we find the opposite of our educational aims most clearly crystallized. Kong, whose name was Latinized into Confucius, lived about 500 B. C., declared that man's destiny and whole duty was to perfect himself. In China all deviation from the customs of tradition is looked upon with disfavor, so that their system is adapted to perpetuate an exclusive national existence. Recent developments prove the Japanese to be a much more progressive people. Many English and American works are translated for use in their schools.

Persia.—Zoroaster, who lived in the sixth century B. C., discovered the dualism in all nature—the right

and the wrong—and conceived of two co-existent spiritual beings, Ormuzd at the head of the kingdom of light and Ahriman at the head of the kingdom of darkness. His doctrine did much to moralize Persia. The Magi were the learned class. It is said that much of the learning of Pythagoras was borrowed from them.

Egypt.—Here perhaps is the oldest civilization of the world. She made her highest attainment in the mechanic arts. Psammetichus introduced the Greek and Phœnician elements into Egyptian civilization.

Greece.—Homer tells us that during the Heroic Age, prior to 1100 B. C., education was chiefly patriarchal With the Dorian Migration family life gave way to state life, hence state education. Dorian, or Spartan, culture made physical strength and war-like skill the objective points in order to maintain the perpetuation of the ruling class.

Pythagoras.—582–500 B. C. Although not a Dorian he was the greatest exponent of Dorian civilization. Thales was his teacher. He established a school at Croton, southern Italy, where he taught music, physics, mathematics, geography, and metaphysics, by means of lectures delivered in short, condensed sentences (laconism). He was the first to raise mathematics to a science, and united geometry with arithmetic. The great theorem of the right-angled triangle is his.

Lycurgus.—Also a Dorian, who lived about 850 B. C. His laws were very stringent. Children belonged to the state. Boys, if strong, were educated by the state; if weakly, they were destroyed. Girls were left in the parental home.

Solon.—Ionian culture was based on the laws of

Solon, born 639 B. C. He favored intellectual pursuits, forbade the sale of girls, and required boys to learn some pursuit. Parents who failed to educate their boys had no claims to the support of their sons in old age.

Socrates.—Born at Athens 469 B. C. Began life as a sculptor. Became a student of philosophy, and a teacher of youth and men in search of knowledge. Taught in the streets by questioning all who would listen to him concerning their notions of morality. He gave the impression that he was asking questions for his own information. His fondness for this method of teaching has made it known as the "Socratic Method." His stern morality offended the corrupt party in power and he was condemned to die by drinking hemlock, 400 B. C. He left no writings, but his teachings are found in Xenophon's "Memorabilia" and in the dialogues of Plato, both his pupils.

Plato.—426–347 B. C. He comprehended Socrates fully. His philosophy, known as the Academic because he taught in the grove of Academus, is that of idealism. He taught that the soul consists of three parts: (1) The appetite, wild, capable of being tamed; (2) The spirit, which may work in lines of good or evil; (3) The philosophic element. He taught education was the privilege and duty of the state, and that education is the noblest and most important of all callings. He wrote "Republic," describing an ideal state.

Aristotle.—Greek, 384–322 B. C., was the most noted pupil of Plato. At 47 he became Alexander's tutor. At 50 he established his school known as the Lyceum. He lectured while walking about, hence his school of philosophy became known as the *Peri-*

patetic (to walk around). He wrote a number of books on various sciences. He held that man should be trained by the state. On a charge of atheism he fled from Athens the year of his death.

Rome.—Numa Pompilius was the first Roman worthy the name of educator. Varro and Cicero wrote on educational subjects prior to Christian era. Cicero taught that teachers should be just; that punishment should only be resorted to in extreme cases; that the pupil should be made to feel that correction was administered only with the desire to make him better, and should never be administered in anger; that memory should be cultivated; that moral culture should be encouraged.

Dawn of Christian Era.—Seneca was the first Roman writer on education belonging to the Christian era. Quintilian thought that weak-minded children and children that cannot learn, are very few. The Romans do not furnish us with systems of education, but from them we receive many practical suggestions in accordance with common sense and the correct principles of humanity. But the birth of Christ, 4 years before the beginning of the Christian era, brought about a new religion, and with it a new civilization based on pure humanity. This new religion taught that stagnation is death and progress is life, and that the greatest is he who does most to elevate humanity.

The Middle Ages.—We hear but little more of education until the 16th century. The early Christians took great interest in the education of their children. Their system sacrificed the intellectual to the moral element of our nature. But for a thousand years prior to the 15th century education was housed

in cloisters, books were chained to their owners' desks, and education was possessed by the few. The tendency of the education was to spurn the present world in the interests of the world to come; to foster asceticism, celibacy, transcendentalism, monasticism. Did space permit, an account of the secular education of the 400 years of the Middle Ages and of the knightly education would be given here. The student should study the history of institutions of the Middle Ages.

The Reformation.—Instituted by Martin Luther, 1483–1546. Although Luther could not devote himself exclusively nor directly to the cause, yet his efforts were not fruitless in Protestant Germany. The churches took up the establishment of popular instruction, and he thus became the greatest educational reformer of his century.

Philip Melancthon.—1497–1560, is known as the "Preceptor of Germany." He knew Luther, from whom he drew energy. He was noted for his discretion, mildness, sympathy, and love for children. He has the distinction of having written the first Protestant work on dogmatic theology. His passion found greatest expression in literature. He divided the schools into grades, very much as they are now. He believed in teaching but one language, and in much practice in grammar.

John Sturm.—1507–1589, a Prussian by nativity, a German by nationality. He organized the gymnasium at Strasburg, which numbered several thousand students before his death. His was the first systematic organization of the schools His course of study was extensive yet systematic; suitable, and sensible. He is the father of *system* in instruction.

He formulated the algebraic theorem that bears his name.

Lord Bacon.—Born in London, 1566, died 1626. Was eloquent and learned. His official career was disgraceful, his morals reprehensible. But he freed mankind from scholastic word-wisdom, and taught that scientific life consists of independent investigation, discovery, and invention. The student must rise from the phenomena to the law, from facts to accurate conceptions.

John Amos Comenius.—1592–1671, a Moravian. Was a minister; was banished by Frederick II. in 1624, and fled to Poland, where he devoted his time to education. He did much for simplifying Latin. He wrote "Orbis Pictus," or the Visible World, in which he expressed more rational views on education than then prevailed. He asked for airy and light school-rooms, and for plenty of play-ground as essential to every well-regulated school. He urged the necessity of a harmonious development of the entire human being. He did much to modernize instruction.

John Locke.—1632–1704, Eng. philosopher. He said it is education that makes the great difference of mankind. He set little store by mere book-learning. He said that education consists of virtue, wisdom, good-breeding, and learning, of which he thought learning the least part. He strenuously objected to the use of the rod. He condemned committing to memory when the subject was not fully comprehended.

Jean Jacques Rosseau.—1712–1778, a Swiss educator of extreme views. His chief maxim was, "Take the road leading directly opposite to the one

in use, and you will almost always go right." But few reformers have exerted a greater influence upon education. His greatest work is "Emile, or Concerning Education." It needs to be read with great discrimination, yet every teacher should read it. He believed in the cultivation of sense-perception, and in the development of the complete man.

Augustus Herman Francke.—1663–1727, a German educational reformer. His great love for children, and his desire to do something to improve the schools, led him into his life's work. He founded a school for poor boys and girls, an orphan asylum, a Latin school, a teachers' seminary, and a free boarding-school. At the time of his death 10,000 teachers had instructed in his schools and 250,000 boys and girls and teachers had been taught in them. He was one of the first who saw how much the teacher needed professional training. He became virtually the founder of the scientific schools of Germany.

John Henry Pestalozzi.—1746–1827, a Swiss educator, the founder of "object-teaching," and the most celebrated of educational reformers. In youth he was awkward and the butt of fun for his playmates. His feelings were remarkably strong; he was injudicious, and to-day would be considered a poor instructor. He made failures, both financial and educational. Yet he possessed the true educational principles which have since been verified by others. His principles are still at work, permeating and changing modern education into a realization of the "New Education." His chief work is "Leonard and Gertrude."

Frederick Froebel.—1782–1852, a German edu-

cator, the founder of the Kindergarten. He got from Pestalozzi the idea of genuine human development, and had a keener insight and a better discipline with which to apply it. His great work is "The Education of Man." He converted everything that goes by the name of play into instruments for his purpose, and readily transformed play into work. His idea has worked wonders in our system of education, and is gaining ground rapidly.

The Outlook.—Every decade makes great changes in the educational outlook on the future. Everywhere methods are becoming objective and observational. Teaching that does not seek the standpoint of normal or natural methods fitted to the pupil's experience and nature can not be successful. Everywhere we are recognizing the fact that the lack of interest on the part of pupils is due very largely to the ignorance or neglect of the teacher in applying the great principles of mind-growth to the subject being taught. Proper mental activity is not a phenomenon of chance. Whatever the diversity of views to-day regarding the purposes of teaching arises from a diversity of views concerning the purposes of life itself. The true aim in education is based on the nature and purpose of life. We are now seeking knowledge and discipline for the sake of the soul itself, that its advancement may be toward a realization of the ideal manhood and womanhood.

QUESTIONS.

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Bold faced numbers refer to the page upon which answers may be found.

4. 1. Define psychology 2. What are phenomena? 3. What are psychical phenomena? 4. What is the soul? (See p. 8). 5. Name the methods of study. 6. Define each **5.** 7. What is the classification of the powers of the soul? 8. Name the general powers. 9. Name the individual powers. 10. Name the intellectual powers. 11. Classify the presentative. 12. The representative. 13. Why are the representatives so called? 14. Classify the thought powers. **7.** 15 Give etymology of psychology. 16. What is Gordy's difinition of psychology? 17. What is the province of psychology? 18. What are mental facts? 19. Why is a knowledge of psychology necessary to a good education? 20 What is the strongest reason for studying it? 21. Why should teachers study it? 22. Why should prospective teachers? 23. Repeat the question on p. 7. **8.** 24. What is the strongest reason why teachers should study it? 25. What synonyms of soul are sometimes used? 26. Define mind. 27. Ego. 28. Non-Ego. 29. Spirit. 30. Give Hewett's distinction between soul and spirit. 31 Have dogs souls? 32. Have they a spirit? 33. Do dogs reason? 34. Have they a moral conscience? 35. Have they personalty? 36. What powers are exercised by the soul? 37. Who made this classification? 38. When? 39. Is all the soul required to think? 40. To feel? 41. To will or do? 42. What is feeling? 43. Any distinction between feeling and sensibility? 44. Difine sensibility. 45 What does it include? **9.** 46. Define intellect. 47, Will. 48. Classify psychology. 49. Define empirical psychology. 50. Rational. 51. Which is of most value to teachers? 52. Why? 53. What is the correct use of the terms cognition, feeling, and volition? 54. What is cognition? 55. Volition? 56 Name the methods of study. 57. What is said of the study of self? 58. What are the steps? **10.** 59. Define introspection. 60. What is its main advantage? 61. Its great disadvantage? 62. How does memory aid introspection? 63. How is a psychological principle

deduced? 64. Define inferential method. 65. Do we ever use the inferential in the study of our own minds? 66. What advantage has this method over others? **11.** 67. Why should you study the home influences of the child? 68. How is the objective method related to the subjective? 69. In what three ways is the inferential method used? 70. Name and define the auxiliary branches. **12.** 71. What is said of the study of psychology from books? 72. What difficulty is thus encountered by the student? 73. Why? 74. What kind of science is psychology? 75. Why? 76 Why are the soul and body related? **13.** 77. What is this relation? 78. What is monism? 79. Dualism? 80. Forms of monism? 81. Define materialism. 82. Give Bain's definition of the body. **14.** 83. Define idealism. 84. Agnosticism. 85. Who called the mind "a permanent possibility of sensations?" 86. What of Herbert Spencer? 87. Define dualism. 88 Etymology of dualism and monism. 89. Forms of dualism. 90. Define mysticism. **15.** 91. Dualistic realism. 92. What is said of its validity? 93 Who was Liebnitz? 94. Thomas Reid? 95. James McCosh? 96. What is the intermediate factor in all sensations? 97. Why intermediate? **16.** 98. Name the processes in every complete sensation. 99. Define external excitant. 100. What else called? 101. Illustrate. 102. Give an original illustration. 103. Define sensorium. 104. Define motorium. 105. Where is sensorial excitement? 106. What are the two kinds of sensations? 107. Define cerebro-spinal system. 108. Name the parts. 109. Define encephalon. 110. Name its parts. 111. Describe the cerebrum. 112. What is the weight of the brain? 113. What is the function of the cerebrum? **17.** 114. How many gray cells in the cerebrum? 115. What is apperception? 116. What is percipience? 117. What is the relation of apperception to conception? 118. Describe the cerebellum. 119. What of its function? 120. Locate the medulla. 121. Define foramen magnum. **18.** 122. Is respiration voluntary? 123. What is the function of the medulla? 124. What is the relation of size of brain to intellectual power? 125. Name examples. 126. When is the brain relatively heaviest? 127. Define sensory nerves. 128 Afferent nerves. 129. Efferent nerves. 130. Centripetal nerves. 131. Centrifugal nerves. 132 Why are each so called? 133. Where is the spinal cord? 134. Give weight and length. 135. What are its functions? 136. Of what does the sympathetic system consist? 137 What is the function of this system? 138. What is peculiar about the olfactory nerve? 139. What is a physical excitant? 140. What is the excitant in sense of smell? **20.** 141. What is the sensorial excitement in this case? 142. Name the nerves of taste. 143. Locate

them. 144. What part of the sensorium is engaged in smell? 145. What is the external excitant? 146. The sensorial excitement? 147. What can you say of the modifications of this sense? 148 What of the sensation of sourness? 149. What of sensations of touch detected by the tongue? 150. Describe the auditory nerve. 151. What is the excitant? **21** 152. The sensorial excitement? 153. What of the optic nerve? 154 Where does it originate? 155 The excitant? 156. What is ether? 157. How does light affect the optic nerve? 158. Primarily, what knowledge does the sensation of light give us? 159. Name the auxiliaries to sight. 160 How do we judge of distance? 161. Of size? 162 Define tactile nerves. 163. Where do they possess sensibility? **22.** 164. What is the excitant in touch? 165 The result? 166 Name the general powers of the soul. 167. Define general powers. **23.** 168. What of their functions? 169. What is a faculty? 170. What is an intellectual power? 171. Define consciousness 172. Give Hill's definition. 173. Reason for his answer? 174. What does Hewett say? 175. Schuyler? 176. Putnam? 177. Baker? 178. Do these authors agree in the main? 179. Can you give another definition? 180. What is the two-fold use of the word consciousness? 181. Give etymology. 182. What does this indicate? 183. What alone are objects of consciousness? 184. Why must these phenomena be actual and present? 185. Give distinction between mediate and immediate knowledge. 186. Name the classes of objects of consciousness **24.** 187 What is Ego? 188. To what extent are we conscious of it? 189. What does Hewett say? 190. What does Schuyler say? 191. Are we conscious of the mind's activity? 192. What are pyschical phenomena? 193. Are we conscious of the Non-Ego? 194. Are we conscious of a thought? 195 Are we conscious of anything past? 196 Of anything future? 197. Are we conscious of what we remember? 198. In case of past objects or events of what are we conscious? 199 Can we be conscious of a material object, such as a *hat?* 200. To which faculty is consciousness most closely related? 201. By what is consciousness implied? 202. Name the three kinds of consciousness. 203. Define natural consciousness. 204. What do you understand by "the three classes of psychical phenomena?" **25** 205. Define ethical consciousness. 206 Abnormal? 207. Name four causes of the last. 208. What is said of the degrees of consciousness? 209 Upon what does the degree of consciousness depend? 210 Name the three conditions of consciousness 211 What does Baker say of the relation of consciousness and attention? 212 What is involuntary consciousness? 213 Give an illustration of it. 214 What is said of

unconscious mental activity? 215. What is cerebration? 216. Unconscious cerebration? **26** 217. Can brain activity be unaccompanied by mental activity? 218 Can there be mental activity without brain activity? 219 Can there be mental activity without consciousness? 220 Give an original illustration of 217 221 Can consciousness be cultivated? 222 Give reason 223 Can involuntary acts be trained? 224. Illustrate. 225 What is the second General Power? 226. Define attention. 227. Give etymology. 228. Explain this literal meaning. 229 What does Compayre say of attention? 230 Hewett? 231. Steele? 232. White? 233 Day? 234 Hill? 235 In what two ways is the term applied? 236 What is observation? **27**. 237 Define reflection. 238. Show difference between reflection and observation 239. What two mental powers are exercised in reflection? 240. Classify attention 241 Define voluntary attention. 242 Involuntary 243 Give etymology 244. What are the elements of voluntary attention? 245. When is attention first exercised? 246 What are the functions of attention? 247. What are the causes of non voluntary attention? 248 Give illustrations of non-voluntary attention in adults 249. Which of the two must the learner possess? 250. Why? **28**. 251 What are the two classes of objects to which attention may be directed? 252. Can we attend to objects of consciousness, psychical phenomena? 253 What acts of knowing depend on attention? 254. Discuss the relation of attention to mental activity. 255. Can we attend to more than one thing at a time? 256 Can we *think* more than one thing at a time? 257. What does Hamilton say? 258 Steele? 259 Schuyler? 260 Gordy? 261. Sully? 262 Recite the five general laws of attention. **29** 263 Do these laws apply to voluntary or non-voluntary attention? 264. Give Weber's law. 265 Illustrate the meaning of this law. 266. Name the seven conditions unfavorable to attention. 267. To which kind of attention do they apply? 268 By which kind of attention do we gain the most knowledge? 269 Why? 270. Name six motives proper to appeal to in order to secure attention 271 Name White's "Royal Seven" incentives **30** 272 Which of these do you think the best incentive? 273. Does the nature or disposition of the child have anything to do with the selection of incentives? 274. Why? 275. Name other incentives not named here. 276. Name other causes of inattention. 277. What is said of the growth of this power in childhood? 278. How are the stimuli of attention presented in childhood? 279. What does this teach us? 280. Which senses reach the attention most effectively in childhood? 281. What does this teach us? 282. Can attention be cultivated? 283. Why?

284 How? 285 Describe some original method by which the attention may be cultivated. 286. What is said of genius? 287 What should the teacher do to secure the attention of his pupils? 288 How may he hold this attention? 289. What qualifications of the teacher are necessary that he may secure and hold the attention? 290 Give etymology of conception. 291. What does this mean? 292. Make an original definition from the etymology. 293. What is said of the various uses of the term? **31**. 294. Define conception 295. What are the three processes of conception? 296 Into what five may these be divided? 297 Which author's definition of conception is the clearest to you? 298 Repeat Schuyler's definition 299 Define presentation 300 Comparison. (These two constitute analysis). 301 Abstraction. 302. Etymology of abstraction. 303. Generalization 304 Its etymology. 305 What is the fifth step? **32**. 306 Define denomination. 307. What does it embrace? 308. Define each. 309. Show relation of conception to classification 310 Is conception a faculty? 311. Why? 312. What does the term embrace? 313. Define concept 314 Name the classes. 315. Define simple concepts 316 General concepts. 317 What is the difference between a concept and an image? 318. Between concept and idea? 319 Between concept and percept? (See percept). 320. See No. 115. **33** 321. What are the individual concepts? 322 Logical? 323. Explain the difference between the two classes. 324 Can conception be cultivated? 325 Why? 326 How? 327. How does sense-perception aid conception? 328. What of the relation of conception to education? 329. What steps of conception are necessary to scientific knowledge? 330 How does linguistic study aid conception? 331. What does it do for the order of study? **34**. 332. What are the essential processess in mind growth? 333 How are abstract ideas developed? 334. What is the crowning notion of science? 335. Name the psyhical powers. **35**. 336. Define intellect. 337. Give etymology 338. What does its literal meaning indicate? 339. What are the functions of the intellect? 340. Define knowledge. 341 Name the three objects of knowledge. 342. Define the subjective. 343. Objective. 344 On what three bases is knowledge classified? 345. Classify as to manner in which known. 346. Define scientific. 347. Unscientific. 348. As to its stage 349. Define each **36** 349 As to intellectual powers used. 350 Define presentative knowledge. 351. Representative. 352. Elaborative. 353. Constitutive 354. Name the classes of intellectual powers. 355. Classify the presentative 356. Define self-consciousness. 357. Consciousness 356 To what is the former limited? 359. Name its forms. 360. Define spontaneous self-

consciousness **37.** 361 Reflective. 362 Name its normal forms. 363. Its abnormal forms. 364. What is the second presentative power? 365. Define it. 366 Its etymology. 367. What does this imply? 368. Name the three uses of the term 369. Give an original illustration of each 370. How many physical conditions of sense-perception? 371. Name them. 372. Define each. 373. Give another term for each. 374 What may they be called? 375 Name the psychical elements of sense perception **38.** 376. Define perception proper 377. Sensation. 378. Explain Hewett's definition of sensation. 379 Name the classes of sense-perceptions 380 Define original perception 381. Acquired 382. Why so called? 383. Give an original illustration of the latter. 384. Classify acquired perceptions 385. Which are of most value? 386. Why? 387. Give an original example of each class. **39.** 388. Of what do we judge by sight? 389. What is the "mechanical conscience"? 390. Classify the senses. 391. Define each. 392. Why is each so called? 393. Why is the sense of sight called etheric? 394. Define percept. 395 How is any object of knowledge known to us? 396. When do we have a percept? 397. Show difference between percept and concept. 398. What is a sense-percept? 399. Difference between percept and image? 400 Define sense-concept. 401 Can percepts of smell be revived into images? **40.** 402. What others can not? 403. Discuss the relation of perception to education. 404. What are the three sources of all our knowledge? 405. Which one furnishes us nearly all our knowledge? 406 What is the discriminative power? 407. What do the laws of perception teach us? 408. What is said of concrete facts? 409. Object lessons? 410. Exercise? 411. What of the child's perceptive faculty? 412 What is Kindergartenism? 413. By whom founded? 414. What did Pestalozzi do? 412. Etymology of Kindergarten. **41.** 416. What of its value? 417. Define intuition. 418. Which definition gives you the clearer idea? 419. What of its relation? 420. What does it embrace? 421. Define intuitive ideas. 422. Classify them. 423. Of which one is there a doubt in some minds? 424. Do you doubt it? 425. Illustrate the idea of personal identity. **42.** 426. The nature of such ideas. 427. Have idiots any intuition? 428. Have insane persons? 429. Define intuitive truths. 430. Synonyms? 431. Name the tests. 432. Define each. 438. Can you doubt an intuitive truth? 434. Can you disbelieve one? 435. Reason? 436. Name three intutive truths not named here. **43.** 437. Name the representative powers of the intellect. 438. Define representative powers. 439. Illustrate 440. What is phantasy? 441. What is said of images thus reproduced?

442. Give etymology of the word. 443 When is phantasy exercised? 444. Name its forms. 445. The simplest form. 446. Define somnambulism. 447. Hypnotism. 448. Distinguish between phantasy and memory. 449. What are the causes of its phenomena? **44**. 450. Name the characteristics of ideas thus reproduced. 451. Name the modes of reproduction in phantasy. 452. Illustrate each. 453. Define imagination. 454. Name its activities. 455. How is the first exercised? 456. The second? 457. The third? 458. What are the limits of imagination? 459. Distinguish between phantasy and imagination? 460. Quote Baker on this subject. **45**. 461. The forms of imagination. 462. Define scientific. 463. Name its subdivisions. 464. Define artistic imagination. 465. Name its forms. 466. Define ethical. 467. How is imagination related to education? 468. Illustrate the use of imagination in reading. 469. In studying science. 470. In exercising the senses. 471. Name five uses in rhetorical composition. 472. Name a use not mentioned in this book **46** 473. Name the uses enumerated by Hewett. 474. How can its use give enjoyment? 475. Explain the sixth use. 476. How can it aid the teacher in the school-room? 477. Memorize the four general laws of imagination. 478. What is the characteristic of undisciplined minds? 479. The aim of the educator? 480. Name four means of training the imagination. 481. Explain the first. **47**. 487. What does the second one mean? 483. Name an example of imaginative literature. 484. What profit to pupils in constructing questions and problems? 485. Name the phases of imagination. 486. Describe the modifying phase. 487. The constructive. 488. The creative. 489. Which is the school phase? 490. Why? 491. Which is used by the novelist? 492. Name the third representative power. 493. Define memory. 494. Discuss the several definitions **48**. 495. Name the acts of memory. 496. Why in this order? 497. Define retention. 498. Illustrate its importance. 499. Define reproduction. 500. Why important? 501. Define recognition. 502. Distinguish between perfect and imperfect memory. **49** Define voluntary recollection. 504. How is the power to recollect strengthened? 505. Define involuntary recollection. 506. Give an illustration of the latter. 507 Enumerate the conditions favorable to cultivating the memory. 508. How does repetition affect retention? 509. Define amnesia. 510. Its causes. 511. Name the degrees of forgetfulness. 512 What may cause momentary forgetfulness? **50**. 513 Define laws of association. 514 Classify them. 515. Name the primary laws 516. What else called? 517. Why? 518 Define the Law of Similarity 519 Illustrate it 520. Define the Law of Contrast. 521. Illustrate it.

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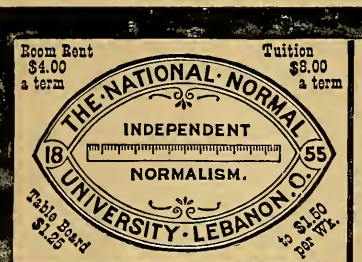

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